446-12

ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH:

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN, PHILADELPHIA, AND THE NAT. HIST. SOCIETIES OF PARIS AND MOSCOW;

PRESIDENT OF THE LINNÆAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

———" VIRESQUE ACQUIRIT EUNDO."———*Virg.*

VOL. XXXI.

LONDON:

PRINTED BY R. TAYLOR AND CO., SHOE-LANE, FLEET-STREET;

And sold by the Proprietor, J. Sowerby, at No. 2, Mead Place, Lambeth; by Messrs. White and Co., Fleet-street; Johnson and Co., St. Paul's Churchyard; Sherwood, Neely, and Jones, Pater-noster-row; and by all Booksellers, &c. in Town and Country.

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G.R. III.

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June 1 1814 published by J.C. Loudon, London.

ULMUS suberosa.

Cork-barked Elm.

PENTANDRIA Digynia.

GEN. CHAR. *Cal.* 4- or 5-cleft, inferior, permanent. *Cor.* none. *Capsule* membranous, compressed, nearly flat, with 1 *seed.*

SPEC. CHAR. Leaves doubly and sharply serrated, pointed, rough, unequal at the base. Flowers on short stalks, four- or five-cleft, with four or five stamens. Fruit roundish, naked, cloven. Branches spreading; their bark corky.

SYN. Ulmus suberosa. *Ehrh. Arb.* 142. *Willd. Sp. Pl. v.* 1. 1324. *Baumz.* 391.

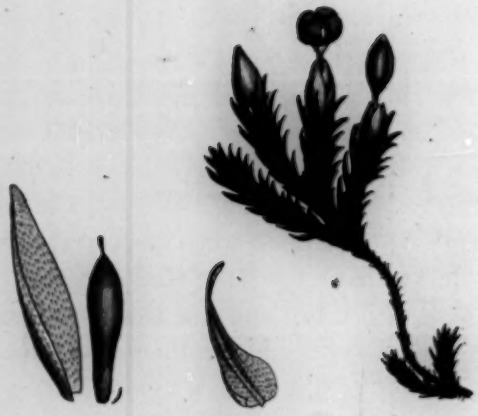
U. campestris β. *Sm. Fl. Brit.* 281. *Huds.* 109. *With.* 279. *Hull. ed.* 2. 75.

U. minor, folio angusto scabro. *Ger. em.* 1480. *Raii Syn.* 469.

OUR conjecture at *p.* 1886 is so far confirmed, by the accurate observations and kind communications of our friend Mr. Borrer, that we can now with certainty publish this, the most common Sussex elm, as the *U. suberosa* of Ehrhart (whose specimen precisely accords with ours), and consequently of other German writers. The late Mr. Crowe was always of opinion that this was the origin of all the cultivated varieties of Dutch Elm, &c., but he was not aware of its being a native of Britain.

The branches spread widely, and their bark of a year old is covered with a very dense fine sort of cork, with deep fissures. The leaves are larger than in *U. campestris, t.* 1886, more pointed, and more sharply and finely serrated. Bunches of flowers, which come forth in March, more hairy, and each flower on a rather longer stalk; its segments erect, varying in number from 4 to 5, as well as the stamens. Fruit rounder than in *campestris*, much more deeply cloven than in *montana, t.* 1887, to which latter our *U. suberosa* appears in most respects more akin than to *campestris*, yet they are surely all three distinct. We have now only to request some Scottish botanist to search out *U. ciliata* of Ehrhart by its fringed capsule. See *p.* 1887.

We ought at *U. montana, t.* 1887, to have quoted *Sm. Fl. Brit.* 282, after *Bauh. Pin.* 427.



June 1 1810 published by Jas Sowerby London.

ANDRÆA Rothii.

Black Mountain Andræa.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, of four valves, whose points adhere to the *lid.* *Fringe* none.

SPEC. CHAR. Leaves lanceolate, keeled, sickle-shaped, with a midrib, leaning one way. Sheath-scales without a rib.

SYN. Andræa Rothii. *Mohr. Crypt. Germ.* 385. *t.* 11. *f.* 7—9. *Hooker's Mss.*

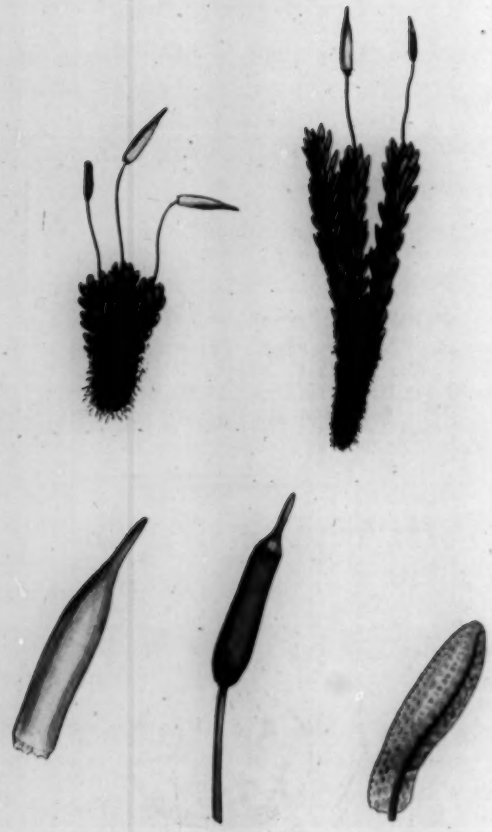
A. rupestris. *Sm. Fl. Brit.* 1178. *Turn. Musc. Hib.* 14.

Lichenastrum alpinum nigricans, foliis capillaceis reflexis. *Dill. Musc.* 507. *t.* 73. *f.* 40.

OUR friend Mr. W. Hooker has enabled us to correct an error into which we had fallen concerning *A. rupestris*, *t.* 1277, nor were we singular in this mistake. The present plant, often gathered by us in Scotland and Westmoreland, proves distinct from the *A. rupestris*, with which we, like Linnæus, had confounded it, though aware of a difference in colour, which might have excited a more accurate scrutiny.

This grows upon dry exposed rocks, and is of a very dark blackish hue, though readily discernible by the paler reddish-brown capsules. The leaves, having a midrib, distinguish it from *rupestris*, though their perichætial scales nearly agree.

We learn also from Mr. Hooker's paper, communicated to the Linnæan Society, that the supposed 4 teeth of the fringe, are in fact valves of the capsule, as appears by the *columella*, equal to them in length, which bears the seeds over its whole surface.



Jones sculp published by Jas. Sowerby London

ENCALYPTA streptocarpa.

Spiral-fruited Extinguisher-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* cylindrical. *Fringe* of 16 linear upright teeth. *Veil* campanulate, inflated, wide.

SPEC. CHAR. Veil contracted and jagged at the margin. Stem branched. Leaves oblong. Capsule spirally furrowed.

SYN. Encalypta streptocarpa. *Hedw. Sp. Musc.* 62. *t.* 10. *f.* 10—15. *Sm. Fl. Brit.* 1182.

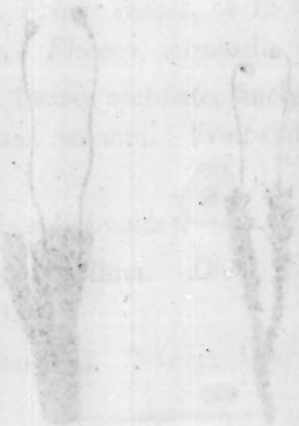
Bryum ciliare. *Dicks. Crypt. fasc.* 4. 15; exclusive of the synonyms.

B. *n.* 1828. *Hall. Hist. v.* 3. 48. *t.* 45. *f.* 3.

Hypnum saxatile erectum, ramulis teretibus, foliis subrotundis saturatè viridibus. *Dill. Musc.* 335. *t.* 43. *f.* 71.

FOUND by Mr. Dickson on the mountains of Scotland. Specimens from himself, one of which is the tallest in our plate, the other being from Switzerland, have enabled us to determine his plant; while an investigation of the herbarium of Dillenius has discovered the true synonym of that author, who has heretofore been erroneously quoted, and who never saw the fruit of this curious moss.

This is much larger than any other of its genus. The stems, which grow in tufts, vary in height from 1 to 2 inches or more, and are mostly branched; they are entirely clothed with dark-green, oblong, entire, obtuse and rounded leaves, imbricated every way, incurved and twisted when dry, each furnished with a strong coloured mid-rib. Fruit-stalks at first terminal, soon becoming lateral, solitary, nearly erect, strong, purplish, naked at the base. Capsule erect, cylindrical, a little swelling at the lower part, brown, very neatly and curiously furrowed in a spiral manner, an unique instance of the kind, as far as we know, in mosses. Lid not so long as the capsule, straight, bluntish, tawny, red at the bottom. Veil large, cylindrical, smooth, shining, pointed, jagged, and somewhat contracted, at the base. Fringe red, straight, deciduous.



Pubd as the Act directs by J.t Sowerby London

GRIMMIA splachnoides.

Splachnoid Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves spatulate, finely serrated. Capsule globose, smooth. Fruit-stalk swelling at the top.

SYN. Grimmia splachnoides. *Sm. Fl. Brit.* 1197.

Splachnum longicollum. *Dicks. Crypt. fasc.* 4. 4. *t.* 10. *f.* 9.

Weisia splachnoides. *Swartz Mss.*

FOUND in the Highlands of Scotland by Mr. Dickson, to whom we are obliged for native specimens with fruit in an early stage of growth. That with ripe capsules was sent by Dr. Swartz from Lapland, with the name above quoted.

The stems are erect, scarcely branched, leafy, an inch and half high. Leaves loosely imbricated, pale green, finely reticulated and serrated, spatulate, acute, single-ribbed. Fruit-stalk an inch and half high, wavy, purple; paler and greenish at the top, where it swells gradually up to the capsule, imitating the apophysis of a *Splachnum*, to which genus the leaves also bear a great affinity. Capsule upright when ripe, globular, very smooth, pale brown or reddish, with a rather wide red mouth. Fringe of 16 equidistant, short, inflexed, reddish-brown teeth. Lid convex with a very short blunt point. Veil rather conical.

The habit of this moss is so like a *Splachnum*, that we do not wonder it should have been thought such; but there is no real *apophysis*, nor is the fringe that of a *Splachnum*. *Weisia radians*, Hedw. Sp. Musc. 73. t. 13. f. 1—4, is nearly related to our plant.

G.R. III.

July 1 1831 published by J.C. Sowerby London

DICRANUM ovale.

Oval Fork-moss.

CRYPTOGAMIA Musci.

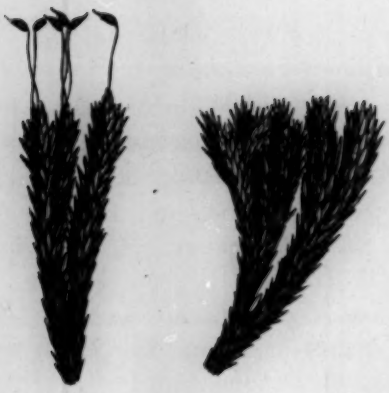
GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stems branched, level-topped. Leaves lanceolate, hair-pointed. Capsule ovate, erect, rather wide at the mouth.

SYN. Dicranum ovale. *Hedw. Sp. Musc.* 140. *Crypt. v.* 3. 81. *t.* 34, A. *Sm. Fl. Brit.* 1214. *Turn. Musc. Hib.* 77. *Winch. v.* 2. 102.
D. ovatum. *Swartz. Musc. Suec.* 35.
Bryum ovale. *Dicks. Crypt. fasc.* 4. 14.

GRANITE rocks on Ben High, Scotland, are said by Mr. G. Don to produce this moss, but sparingly. Our specimens were gathered there by himself, and we have Irish ones from the late Dr. Scott. They all agree with what Dr. Swartz has sent, except in the different states of their capsules, which by age become more and more dilated at the orifice.

The species before us has much of the appearance of *D. ellipticum*, *t.* 1901, but the stems are more decidedly branched, taper and rather naked at the base. Leaves dark-green, opaque, lanceolate, keeled, entire, somewhat revolute, at least when dry; the upper ones each tipped with a white, entire, hair-like point. Fruitstalks erect, pale, short; twisted when dry. Capsule erect, ovate, palish; at length wide-mouthed, brown, and in some degree rugged. Fringe red, short. Lid short, with a blunt point.



Published by J. Sowerby, London

DICRANUM glaucum.

White Fork-moss.

CRYPTOGAMIA Muscl.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched, level-topped. Leaves imbricated, ovato-lanceolate, ribless, whitish. Capsule ovate, furrowed.

SYN. Dicranum glaucum. *Hedw. Sp. Musc.* 135. *Sm. Fl. Brit.* 1216. *Sibth.* 281. *Turn. Musc. Hib.* 73.

Brvum glaucum. *Linn. Sp. Pl.* 1582. *Huds.* 479. *Hull.* 263. *Abbot.* 239. *Lightf.* 723. *Ehrh. Crypt.* 4.

B. albidum et glaucum fragile majus, foliis erectis, setis brevibus. *Dill. Musc.* 362. *t.* 46. *f.* 20.

B. trichoides erectis capitulis, albidum fragile. *Raii Syn.* 97.

Mnium glaucum. *With.* 801 !

DRY mountainous stony heaths and pastures produce abundance of *Dicranum glaucum*, the great white patches of which are often very conspicuous, but the fruit is rare. The remarkable spongy, bibulous, light, elastic habit of the leaves is exactly that of a *Sphagnum*, and totally unlike all British mosses besides. The stems are branched, crowded, level-topped, 2, 3 or 4 inches high, lasting many years. Leaves opaque, closely imbricated, ovato-lanceolate, rather concave, entire, bluntish with a little point; the young ones almost white; the rest pale brownish; all destitute of rib or veins, but finely cellular, brittle when dry. Fruitstalks rather above half an inch high, brownish red, not very straight. Capsule ovate, short, brown, furrowed, inclining and curved, the mouth dilated when old. Fringe red. Lid as long as the capsule, red, awlshaped, curved, acute.

No moss can be better calculated for packing than this, where it is easily to be had.

July 1 1810 published by J. Sowerby London

DICRANUM spurium.

Broad-leaved Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

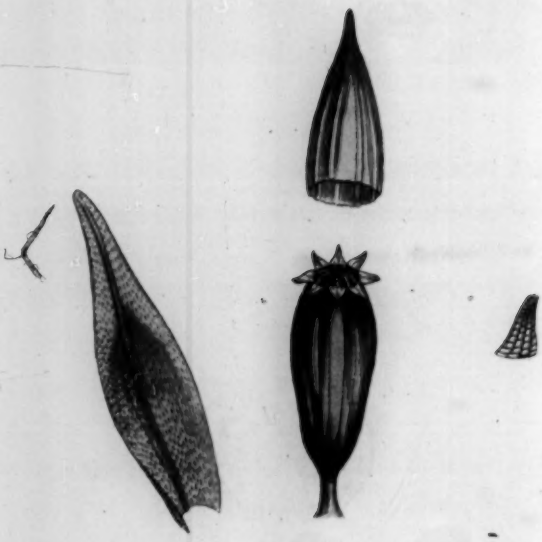
SPEC. CHAR. Stem branched, level-topped. Leaves ovate, pointed, concave, entire, keeled, spreading every way. Capsule cylindrical, curved, furrowed.

SYN. Dicranum spurium. *Hedw. Sp. Musc.* 141. *Crypt. v.* 2. 82. *t.* 30. *Sm. Fl. Brit.* 1222. *Swartz. Musc. Suec.* 33.

Bryum spurium. *Hoffm. Germ. v.* 2. 38. *Dicks. Crypt. fasc.* 4. 13.

NO person that we know of has ever gathered this remarkable moss in Britain, except the late Mr. Teesdale, F.L.S., who found it on Houghton and Barnby moors, Yorkshire, growing intermixed with *Mnium palustre*, but without fruit. That defect we have supplied, as far as we could, from one of Dr. Swartz's specimens, but the fringe is still deficient. Hedwig figures some of the teeth as occasionally 3-pointed. He seems to consider this species as very nearly allied to *D. scoparium*, *t.* 354, not adverting to the extremely different direction of the leaves, which in the present spread every way, and are moreover so remarkably incurved and frizzled when dry. The young ones are of a fine pale green; the older brown or black, but still shining. Their points are finely serrated. The fruit and stalk resemble those of *scoparium*, but the capsule is furrowed. Fringe red, rather short. Lid awlshaped, slender.

Every thing about this *Dicranum* evinces a much greater affinity to *polyphyllum t.* 1217, *Scottianum*, *t.* 1391, &c., than to *scoparium* and its allies.



July 1 1810 published by J.t Sowerby London

ORTHOTRICHUM pumilum.

Dwarf Bristle-moss.

CRYPTOGAMIA Musci.

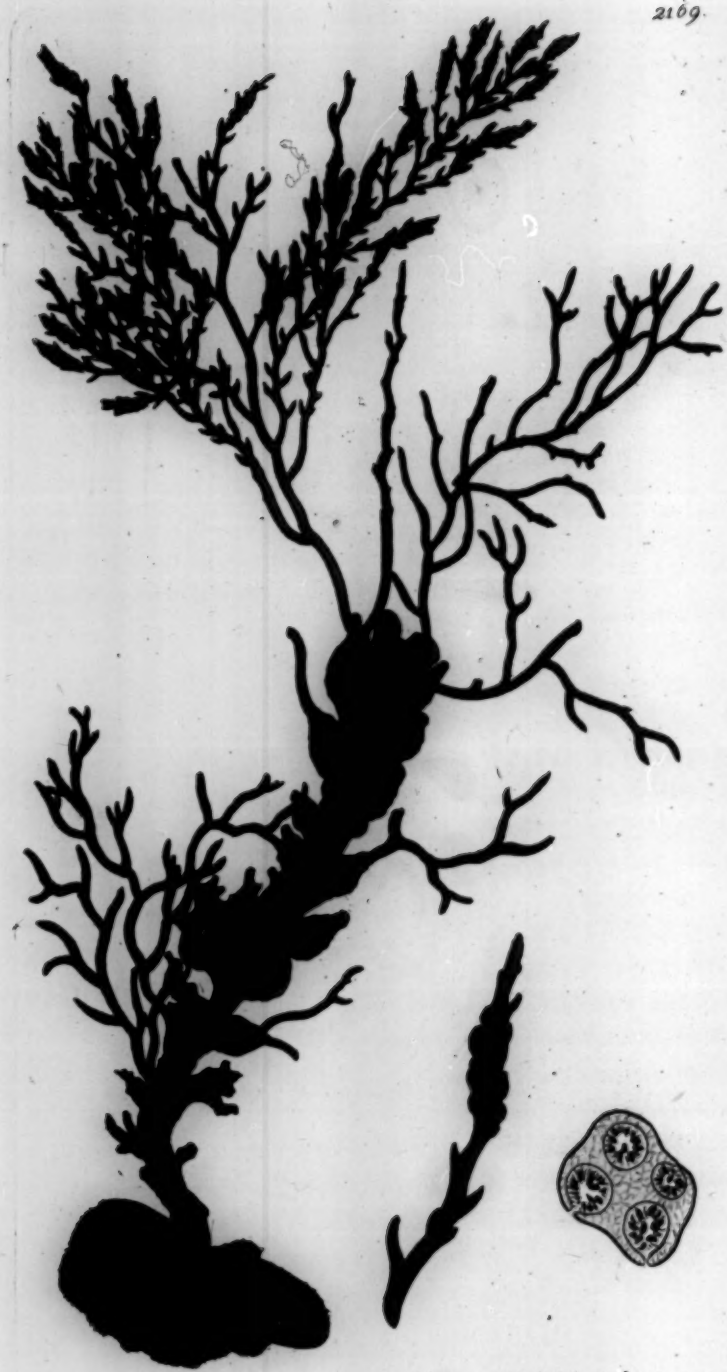
GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem somewhat branched. Leaves ovato-lanceolate, revolute, spreading, beardless. Veil naked. Each fringe of eight teeth.

SYN. Orthotrichum pumilum. *Swartz. Musc. Suec.* 42. & 92. *t.* 4. *f.* 9. *Sm. Fl. Brit.* 1264. *Dicks. Crypt. fasc.* 4. 5. *Winch. v.* 1. 106. *Turn. Musc. Hib.* 98.

GATHERED at Copgrove, Yorkshire, by the Rev. Mr. Dalton, whose specimens agree precisely with one given by Mr. Dickson. Mr. R. Brown first found this *Orthotrichum* in Ireland.

It is one of the smallest of its genus, and grows on the trunks of trees, bearing capsules in the spring. The colour of the leaves is brighter and yellower than in others of the same size; their form is ovato-lanceolate, with somewhat of a point, but blunt, and not tipped with any hair. The edges are entire, a little revolute. Capsules solitary, terminal, nearly sessile, oblong, rather pear-shaped, olive-coloured, with 8 furrows. Veil striated, quite smooth, greenish-white, with a straight brown summit. Lid with a little pale straight point. Outer fringe of 8, not 16, broad, brown, spreading teeth; inner of 8 very slender, hair-like, white, inflexed bristles.



July 1 1810 published by J.ᵈ Sowerby London

FUCUS granulatus.

Granulated Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond round, warty, very much branched: branches threadshaped, spinous; young ones linear, flat, entire, with a midrib. Tubercles crowded near the extremities, necklace-like, with a toothed point.

SYN. Fucus granulatus. *Linn. Sp. Pl.* 1629.
F. mucronatus. *Turn. Syn.* 73.
F. nodicaulis. *With. v.* 4. 111. *Hull.* 329.

SENT from the Devonshire coast by Mrs. Griffiths to Mr. Turner, who considers it as an excellent specimen of his *mucronatus*, under which he candidly admits the probability of his having confounded several different species. This is undoubtedly the *granulatus* described in *Sp. Pl.* and we presume to think that the *fœniculaceus* of *Linn. Trans. v.* 3. 134, on the authority of a specimen marked by Mr. Woodward, is a different plant, whatever Hudson's *concatenatus* may be, but it also seems to us very distinct from *granulatus*.

These species all nearly agree in their dark olive-brown colour, almost black in the dried specimen. The present has a firm expanded disk for its root, and the main stalk when old becomes warty, or knotty, in a very remarkable manner. The young branches are flat, linear, entire, with a midrib; the older ones extremely various in length, and in quantity of subdivisions, but all threadshaped, beset with little, sharp, scattered spines, and bearing near their extremities necklace-like oblong clusters of innate roundish tubercles, each opening by a pore, and lined internally with seeds.

F. granulatus, Tr. of L. Soc. v. 3. 131, is evidently by the description not this plant. See *t.* 2170.

July 1 1810 published by J. Sowerby London.

FUCUS barbatus.

Beard-like Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond round, very much branched, without spines: branches threadshaped. Tubercles crowded into oblong, terminal, sharp-pointed pods.

SYN. Fucus barbatus. *Gooden. and Woodw. Tr. of L. Soc. v.* 3. 128. *Turn. Syn.* 80. *Hull.* 317.

F. fœniculaceus. *Huds.* 575. *With. v.* 4. 87. *Gmel. Hist. Fucor.* 86. *t.* 2, A. *f.* 2.

DRAWN from Mr. Woodward's own specimen, compared with one given by Mr. Hudson to Sir T. Frankland as his *fœniculaceus*, gathered on the Devonshire coast.

The whole plant is of a very dark olive brown, almost black when dry. The frond very much branched in an alternate manner, threadshaped, rather slender, almost capillary at the points when barren, destitute of spines, and, as far as we know, of any dilatation so as to resemble leaves. The fructification is abundant and very obvious, consisting of small, elliptical or oblong, pod-like clusters of tubercles, in each of which the seeds are lodged, doubtless in the manner of *F. granulatus*, *t.* 2169.

Mr. Turner considers the *granulatus* of the learned writers in *Tr. of L. Soc. v.* 3. 131, as a variety of this with rather less crowded tubercles. It is a Yarmouth plant, but not known to us.

J. Sowerby Londen

CONFERVA scopulorum.

Green Plush Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dark green. Filaments simple, short, ascending, curved, taper-pointed; glutinous and cohering at the base. Joints very short.

SYN. Conferva scopulorum. *Weber and Mohr's Journey to Sweden*, 195. *t.* 3. *f.* 3. *Dillw. Syn. n.* 12. *t.* A.

GATHERED on planks in the sea, over which it spreads to a great extent, near Bognor, Sussex, by Mr. Borrer, to whom we are obliged for specimens verified by a comparison with some sent to Mr. Turner by Dr. Mohr. It is well figured in a small German volume, which describes a scientific tour through Sweden, performed by this gentleman and his friend Weber.

The patches of this diminutive Conferva resemble coarse dark-green plush or velvet, and consist of innumerable simple filaments, which stand nearly erect, but not perfectly so, each being irregularly bent or curved. The extremities are mostly taper-pointed and pellucid, sometimes rather tumid. Joints twice as broad as long. Mr. Dillwyn remarks that the filaments are agglutinated together towards the base in a singular manner. When dry they cohere in curved clotted tufts.

CONFERVA olivacea.

Tufted Olive Conferva.

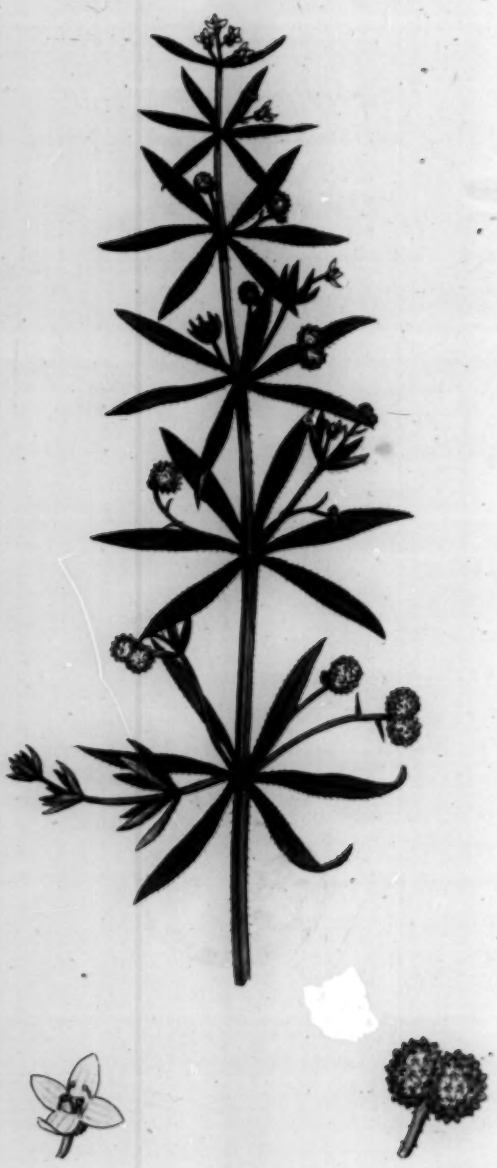
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Brownish olive. Filaments branched, erect, tufted, entangled, somewhat rigid; branches numerous, scattered, mostly simple, obtuse. Joints rather broader than long.

SYN. Conferva olivacea. *Dillw. Syn. n.* 71. *t.* C.

MR. DILLWYN, as well as ourselves, received this new species of Conferva from Mr. Borrer and Mr. Hooker, who discovered it on marine rocks in Papa Westra, in the Orkneys. It is said to spread in patches over the rocks. The filaments are closely entangled, and, though so far erect as to form a sort of fine olive-brown turf, throw out branches in various directions. These branches are often, but not constantly, alternate, numerous, obtuse, mostly simple. Their joints scarcely so long as broad, and, after drying at least, their separations are white and pellucid. The filaments and branches are rather rigid, though extremely slender.



May 1 1819 published by Jas. Sowerby London

GALIUM verrucosum.

Warty-fruited Bedstraw.

TETRANDRIA Monogynia.

GEN. CHAR. *Cor.* of one petal, flat, superior. *Seeds* 2, roundish.

SPEC. CHAR. Leaves six in a whorl, lanceolate, with marginal prickles pointing forward. Flower-stalks axillary, three-flowered. Fruit warty, drooping.

SYN. Galium verrucosum. *Sm. Prod. Fl. Græc. Sibth. v.* 1. 93.

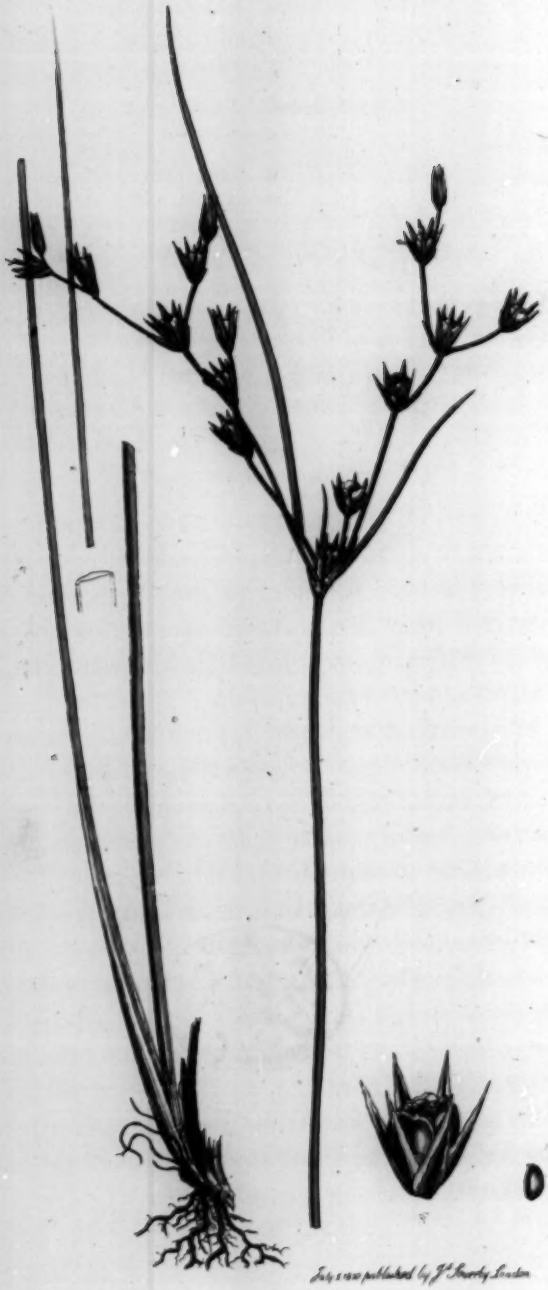
G. tricorne. *Don Herb. Brit. fasc.* 5. 103.

Valantia Aparine. *Linn. Sp. Pl.* 1491.

Aparine semine coriandri saccharati. *Tourn. Inst.* 114. *Vaill. Paris t.* 4. *f.* 3, *b.*

WHETHER this species of *Galium*, confounded by almost all botanists with our *tricorne*, *t.* 1641, has ever been gathered in Britain before Mr. G. Don observed it in corn-fields in the Carse of Gowrie, Scotland, we have no sure means of knowing, but we are certain of the above synonyms. It has been observed near Malton, Yorkshire, by Mr. R. Miller, and is annual, flowering from June to August.

Root slender, turning reddish when dried, and retaining the cotyledons long at its summit. Stems several, somewhat branched, their angles rough with reflexed prickles. Leaves six in each whorl, their marginal prickles pointing all forward, not backward; by which invariable character, and the large pyramidal tubercles that cover the fruit, and give it the appearance of a coriander comfit, this species is clearly distinguished from *tricorne*. Linnæus referred it to *Valantia* because some flowers have no pistil, but the generic characters in the fruit of real *Valantiæ* are strikingly peculiar, and quite unlike those of *Galium*.



July 1 1820 published by J.t Sowerby London

JUNCUS gracilis.

Slender Spreading Rush.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* of 6 leaves, permanent. *Cor.* none. *Caps.* superior, of 3 valves, with 1 or 3 cells. *Seeds* several. *Stigmas* 3.

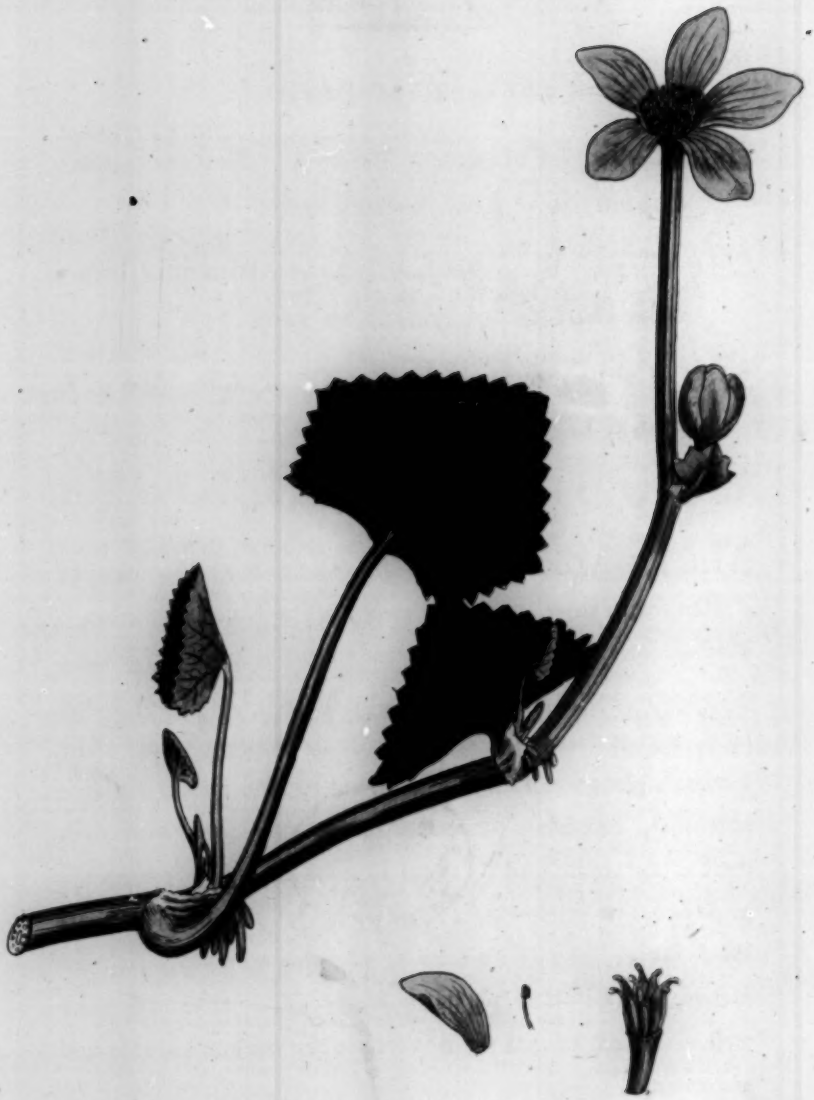
SPEC. CHAR. Leaves linear, flat. Stem forked, racemose, taller than the leaves. Flowers solitary.

FOUND by Mr. G. Don in 1795 or 1796, by the side of a rivulet, in marshy ground, among the mountains of Angusshire, but very rarely. It appears to us to be a nondescript, but we received from Mr. Dickson, some years before the above date, a specimen not so far advanced towards maturity, of what seems to us the same species.

The root consists of woolly fibres, and has the appearance of being perennial. Stem very slender, a foot or more in height, naked, except at the base and summit. Radical leaves but one or two, much shorter than the stem, narrow, flat, slightly thickened, or somewhat involute, at their edges, not channelled. The top of the stem terminates in a few racemose forked branches, with 2 or 3 leaves at their base. Flowers solitary, mostly sessile. Calyx-leaves sharp-pointed. Valves of the capsule blunt and emarginate.

The inflorescence and fructification of this Rush come nearest to *bufonius*, *t.* 802; but the fewness of the flowers, taller stem, and flatter leaves, as well as the broader and emarginate valves of the fruit, serve well to distinguish it, not to mention the probably perennial root.

2175.



Aug 1 1807 published by J & F Rivington St Pauls.

CALTHA radicans.

Creeping Marsh Marigold.

POLYANDRIA Polygynia.

GEN. CHAR. *Cal.* none. *Petals* 5. *Nectaries* none. *Capsules* several, with many seeds.

SPEC. CHAR. Stem creeping. Leaves triangular, somewhat heart-shaped, sharply crenate.

SYN. Caltha radicans. *Forster Tr. of Linn. Soc. v.* 8. 323. *t.* 17.

MR. T. F. FORSTER, who first defined this species of *Caltha*, with three other new ones, in the Linnæan Society's Transactions, favoured us with this specimen from his garden, which agrees with wild ones sent by Mr. G. Don from Scotland, except that in the latter the stems are more erect. Mr. Forster's plant was found in Scotland by Mr. Dickson. It is perennial, flowering in June, and is sometimes seen with double flowers in gardens about London, being always readily known, by its smaller size, more triangular and sharply crenate lower leaves, and decumbent or creeping stem, from *C. palustris*, *t.* 506. The petals moreover are smaller and more wedge-shaped, so that the flowers are far less conspicuous and ornamental.

July 1 1800 published by J.t Sowerby London.

BRASSICA Rapa.

Common Turnip.

TETRADYNAMIA Siliquosa.

GEN. CHAR. *Cal.* erect, partly cohering. *Seeds* globular. *Pod* nearly cylindrical; the partition prominent, awl-shaped. *Glands* 4.

SPEC. CHAR. Root stem-like, orbicular, depressed, fleshy. Radical leaves lyrate, rough; those of the stem nearly entire, smooth.

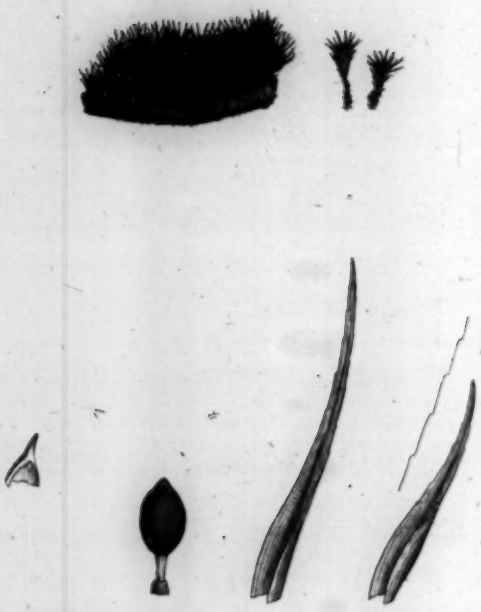
SYN. Brassica Rapa. *Linn. Sp. Pl.* 931. *Sm. Fl. Brit.* 720. *Huds.* 289. *With.* 591. *Hull.* 148. *Relh.* 262. *Sibth.* 203. *Abbot.* 145. *Mart. Rust. t.* 49, 50.

Rapa sativa rotunda. *Raii Syn.* 294.

FREQUENT about the borders of fields; but whether truly wild, or the outcast of cultivation, is not always readily ascertained. It is biennial, and flowers in April. The use of this root as a winter fodder for cattle is sufficiently notorious, especially in Norfolk and Suffolk.

The root is very fleshy and succulent, of a globose figure, more or less elongated or depressed, white, often tinged externally with purple or green, with a taper base throwing out numerous fibres. Culture, in a soil not too rank, renders it sweet, and far less acrid than when wild. The stem is upright, branched, round, leafy and smooth. Radical and lower stem leaves lyrate, jagged, dark green, rough; the upper ones nearly or quite entire, heart-shaped, clasping the stem, smooth, rather glaucous. Flowers bright yellow, numerous, in terminal corymbs. Calyx more spreading than is strictly proper to the genus. Pods cylindrical, veiny, smooth.

Mr. T. A. Knight, so celebrated as a botanical physiologist and cultivator, assures us the Swedish Turnip proves, by the experiment of cross impregnation, rather a variety of this than of *B. oleracea*, *t.* 969, he having never been able to obtain any offspring betwixt any variety of the latter and either the Swedish or English Turnip, but, on the contrary, he has produced every gradation of appearance between the two latter.



PHASCUM subulatum.

Awl-leaved Earth-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* ovate, without any separate lid, deciduous. *Veil* minute, deciduous.

SPEC. CHAR. Stem simple. Capsule on a short stalk. Leaves awlshaped, spreading; dilated at the base; capillary at the point.

SYN. Phascum subulatum. *Linn. Sp. Pl.* 1570. *Sm. Fl. Brit.* 1149. *Hedw. Sp. Musc.* 19. *Crypt. v.* 1. 93. *t.* 35. *Huds.* 466. *With.* 785. *Hull.* 251. *Relh.* 412. *Sibth.* 272. *Abbot.* 229. *Curt. Lond. fasc.* 4. *t.* 67. *Ehrh. Crypt.* 182. *Turn. Musc. Hib.* 1.

Sphagnum acaulon trichodes. *Dill. Musc.* 251. *t.* 32. *f.* 10.

FREQUENT and abundant in shady hollows of sandy banks in woods or on heaths, bearing fruit in the early spring.

The roots are fibrous and annual. Plants forming rather loose velvet-like patches, of a lightish green hue. Stem scarcely one eighth of an inch high, simple, leafy, throwing out roots from the lower part. Leaves imbricated, numerous, spreading, awlshaped, entire, dilated and concave at the base, tapering and somewhat toothed at the point, single-ribbed. Capsule solitary, erect, brown and shining, elliptic-ovate, on a short stalk; the point pale or yellowish.

Published by J.C. Sowerby, London

TRICHOSTOMUM rigidulum.

Little Rigid Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves lanceolate, pointed. Capsule elliptical. Lid awlshaped. Stem branched.

SYN. Trichostomum rigidulum. *Sm. Fl. Brit.* 1238. *Turn. Musc. Hib.* 24.

Didymodon rigidulum. *Hedw. Sp. Musc.* 104. *Crypt. v.* 3. 8. *t.* 4. *Roth. Germ. v.* 3. 198.

Bryum rigidulum. *Dicks. Crypt. fasc.* 4. 12. *Hoffm. Germ. v.* 2. 40.

MR. R. BROWN seems first to have discovered this moss on walls near Dublin, and in Northamptonshire. Mr. G. Don communicated our specimens from the King's Park, Edinburgh. It is perennial, bearing fruit in the spring, or early part of summer.

The stems are about an inch high, branched and leafy, growing in tufts. Leaves pale green, soon turning brown, imbricated on all sides, spreading, broadly lanceolate, keeled, single-ribbed, entire, taper-pointed, beardless, rather rigid, twisted when dry. Fruitstalks immediately becoming lateral, erect, pale red, hardly an inch high. Capsule erect, elliptical, brown when ripe. Lid awlshaped, shorter than the capsule, curved, rather slender. Fringe pale brown, erect, of 32 extremely slender teeth, connected in pairs by a broad base.

Pl. 2174 published by Jas. Sowerby London.

TORTULA fallax.

Fallacious Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem branched. Leaves linear-lanceolate, keeled, spreading, recurved. Capsule somewhat elliptical. Lid oblique.

SYN. Tortula fallax. *Swartz. Musc. Suec.* 40. *Sm. Fl. Brit.* 1252. *Turn. Musc. Hib.* 48.

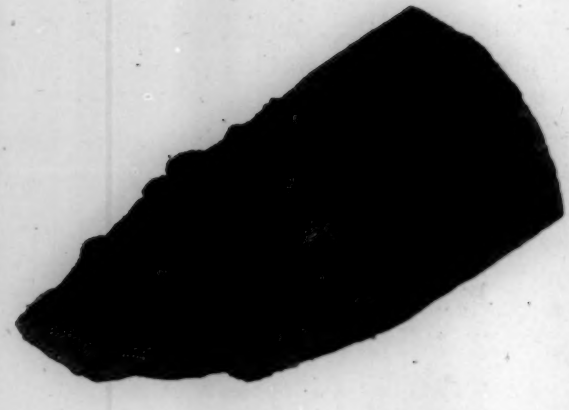
Barbula fallax. *Hedw. Sp. Musc.* 120. *Crypt. v.* 1. 62. *t.* 24.

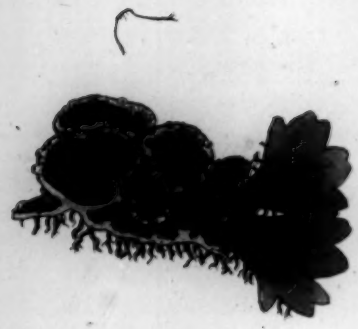
Bryum fallax. *Dicks. Crypt. fasc.* 3. 5. *With.* 833. *Hull.* 264.

WE received these specimens from Mr. W. Borrer. The moss is not uncommon on the tops of walls, but care is requisite to distinguish it from some of its congeners, and the great Hedwig has misapplied synonyms belonging to *T. imberbis* Fl. Brit. 1261.

This species is perennial, and bears capsules abundantly in March or April. Stems an inch high, much branched, leafy. Leaves of a full but yellowish green, linear-lanceolate, dilated at the base, keeled, slightly revolute, entire, considerably recurved, furnished with a thick rib, but no hair-like point; rather inflexed by drying. Fruitstalk an inch high, dark red, at first terminal, but the branches are soon greatly elongated beyond its insertion. Capsule upright, nearly cylindrical, brown, smooth. Lid reddish, awlshaped, as long as the capsule, oblique, scarcely curved. Fringe deep crimson, soon falling off, so as to mislead an incautious observer respecting the genus.

2160





Aug.1.1820 published by Jas. Sowerby London

LICHEN olivaceus.

Olive-coloured Leafy Lichen.

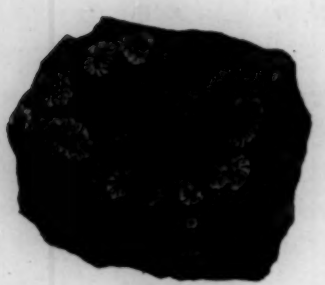
CRYPTOGAMIA Algæ.

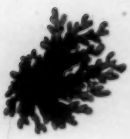
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

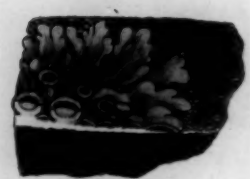
SPEC. CHAR. Leafy, creeping, orbicular, brown-olive, shining, rugged in the centre; brownish and fibrous beneath: its lobes flat, dilated, cut and dotted. Shields dark-chesnut-olive, with an inflexed unequal margin.

SYN. Lichen olivaceus. *Linn. Sp. Pl.* 1611. *Ach. Prod.* 121. *Huds.* 532. *With. v.* 4. 35. *Hull.* 295. *Relh.* 462. *Sibth.* 325. *Abbot.* 263.
Lichenoides olivaceum, scutellis lævibus. *Dill. Musc.* 182. *t.* 24. *f.* 77: also *f.* 78.
L. crustâ foliosâ scutellatâ, pullum. *Raii Syn.* 72.
Parmelia olivacea. *Ach. Meth.* 213. *Winch. v.* 2. 56.

FAR from rare on pales or the smooth barks of trees. It is often peculiarly conspicuous on the white cuticle of the birch, and is readily known from all our other creeping or imbricated Lichens by its shining olive colour, little altered by wet or by drought. The patches are from 2 to 4 inches broad, sometimes much granulated and rugged in the central part, and usually, but not always, besprinkled throughout, as well as the borders of the shields, with papillary warts. The disk of the shields is rather concave and uneven, of a more chesnut cast than the frond, or their own borders. They are smooth and even at the back, not rugged like *L. corrugatus*, *t.* 1652.







May 1 1811 published by J. Sowerby London.

LICHEN elegans.

Elegant Orange Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust hard, smooth, orbicular, radiating, plaited or rugged; its lobes linear, compound, convex, wavy, all of a tawny orange, as well as the shields and their smooth borders.

SYN. Lichen elegans. *Ach. Prod.* 102.

L. sympageus. *Ach. Prod.* 105.

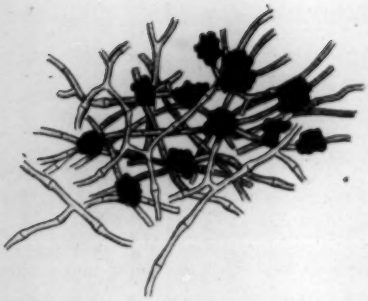
L. fulvus. *Dichs. Crypt. fasc.* 3. 16. *Willd. v.* 4. 33. *Hull.* 294.

Lichenoides tenuissimum, scutellis exiguis miniatis. *Dill. Musc.* 175. *t.* 24. *f.* 68.

Parmelia elegans. *Ach. Meth.* 193. *Winch. v.* 2. 54.

WE are not sure that several distinct Lichens have not been confounded under the above synonyms, but we have in the plate added one of Dr. Swartz's beautiful original specimens from Lapland, that botanists may judge respecting his plant. Those drawn upon the stone were gathered on Salisbury craigs, Edinburgh, in 1781.

This species is most akin to *murorum*, *t.* 2157, but always much smaller in dimensions, and more orange, or fulvous, in colour; the segments are also more inclined to separate, and become linear zigzag and convex. We should suppose Hoffmann's *miniatus*, Pl. Lich. t. 60. f. 1, to be the same with ours, but Acharius now separates it. Hoffmann's *tegularis*, *t.* 17. *f.* 3, is far more unlike *elegans*, though quoted as a variety in the *Methodus* of the learned author just mentioned.



Aug 1 1810 published by J.t Sowerby London.

LEPRARIA æruginosa.

Verdigrise Lepraria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

SPEC. CHAR. Light verdigrise green. Crust fibrous, obscurely jointed, forming soft spreading tufts. Fructification in small round clusters.

SYN. Byssus æruginosa. *Huds.* 605. *With. v.* 4. 143. *Hull.* 307.

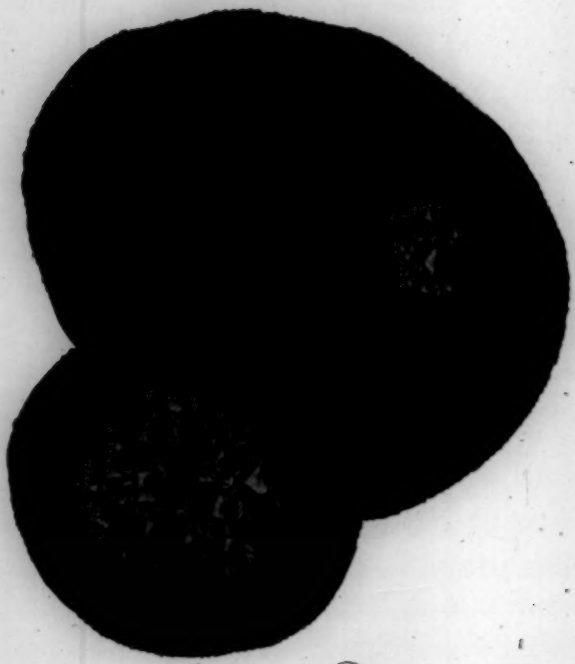
B. lanuginosa æruginosa. *Dill. Musc.* 4. *t.* 1. *f.* 7.

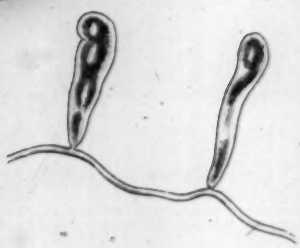
Conferva pulveria. *Dillw. Syn. n.* 78. *t.* D.

I FIRST met with this plant on the pillars of the beautiful chapel at Roslin 7 miles from Edinburgh, in 1782. Mr. Dickson, who had never before seen it, determined the synonyms of Hudson and Dillenius. My young friend Mr. Leach has since gathered it there also. This spring I collected very fine specimens, one of which appears in the annexed plate, on the north wall of Wormleybury church, Herts, close to the tomb of Lady Amelia Hume. Mr. Young found the same in Glamorganshire, according to Mr. Dillwyn, who refers it to *Conferva*.

This species is most akin to *L. latebrarum*, *t.* 2147, with which it agrees in general structure, but differs in being of a much softer looser texture, by no means firm, rounded, or cushion-like; neither is it grey or stone-coloured, as our *t.* 2147 ought to have been represented after Mr. Sowerby's original drawing seen by me, but of a delicate verdigrise green. The fibres of the basis are by great attention found to be slightly jointed, but we conceive it ought not for that reason to be removed from the fibrous *Leprariæ*, with which it agrees in more peculiar characters.

2183.





Aug 1 1830 published by Jas Sowerby London

FUCUS Bursa.

Pouch Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond green, globose, hollow, minutely papillary, composed of club-shaped concentric vesicles, connected by capillary, tubular, branching, entangled filaments.

SYN. Fucus Bursa. *Turn. Hist. Fucor. v.* 3. 6. *t.* 136.
Alcyonium Bursa. *Linn. Syst. Nat. v.* 1. 1295.
Lamarckia Bursa. *Olivi in Zoolog. Adriat.* 258.

THIS strange production appears from Mr. Turner's work to have been observed on several parts of the English sea coast. Our specimens were gathered in the Irish seas by Mr. Templeton near Belfast, and their fibrous roots were attached to fragments of shells. Each plant is a hollow spongy ball, from 1 to 10 inches in diameter, green, composed of entangled pellucid jointed fibres, bearing numerous concentric oblong vesicles, whose obtuse summits reaching to the outside of the ball, give it a papillary or velvety appearance. Olivi says the seeds are in masses between the vesicles. He makes a new genus of this plant, adding another, the *Ulva decorticata* of Mr. Woodward, *Tr. of Linn. Soc. v.* 3. 55. Mr. Turner shows its affinity to *F. tomentosus*, *t.* 712, and therefore, for the present at least, reckons it among *Fuci*. In mode of growth it closely resembles *Conferva ægagropila*, *t.* 1377.

Published by J.ª Sowerby London

PINGUICULA grandiflora.

Large-flowered Butter-wort.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* ringent, spurred. *Cal.* two-lipped, with five segments. *Capsule* of one cell.

SPEC. CHAR. Nectary cylindrical, pointed, as long as the petal. Upper lip roundly lobed: lower reticulated. Capsule ovate.

SYN. Pinguicula grandiflora. *Decand. Fl. Franc. v.* 1. 250. *v.* 3. 575. *Lamarck. Dict. v.* 3. 22. *Illustr. t.* 14. *f.* 2.

THE Rev. Mr. Hincks, Secretary to the Cork Institution, has favoured us with fine specimens of this *Pinguicula*, new to our Flora, found plentifully in marshy ground in the west part of that county, by Mr. Drummond, curator of the botanic garden at Cork, from whose accurate remarks we extract the following.—"The leaves are nearly twice as large as those of *P. vulgaris*, *t.* 70, more veiny, and yellower. Flower-stalks from 6 to 9 inches high, more viscous and stronger. Calyx more obtuse. The chief difference lies in the corolla, which in this is finely reticulated all over with dark blue veins, and twice as large as in *vulgaris*. It flowers in May; loses all its leaves, and forms into little scaly bulbs in the winter. *P. lusitanica*, *t.* 145, very common in that part of Ireland, keeps its leaves through the winter. *P. vulgaris* is not found there."—Mr. Drummond brought roots of this newly discovered species to his garden in July, when they were quite out of bloom, and our specimens were produced the following spring, 1810. In a wild state the corolla was still larger than in these. From the accounts and figure in the works above quoted, we presume there can be no doubt of its being the plant intended by their authors, as Mr. Hincks first suggested to us.

As it was published by Jas. Sowerby London

CAREX pallescens.

Pale Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

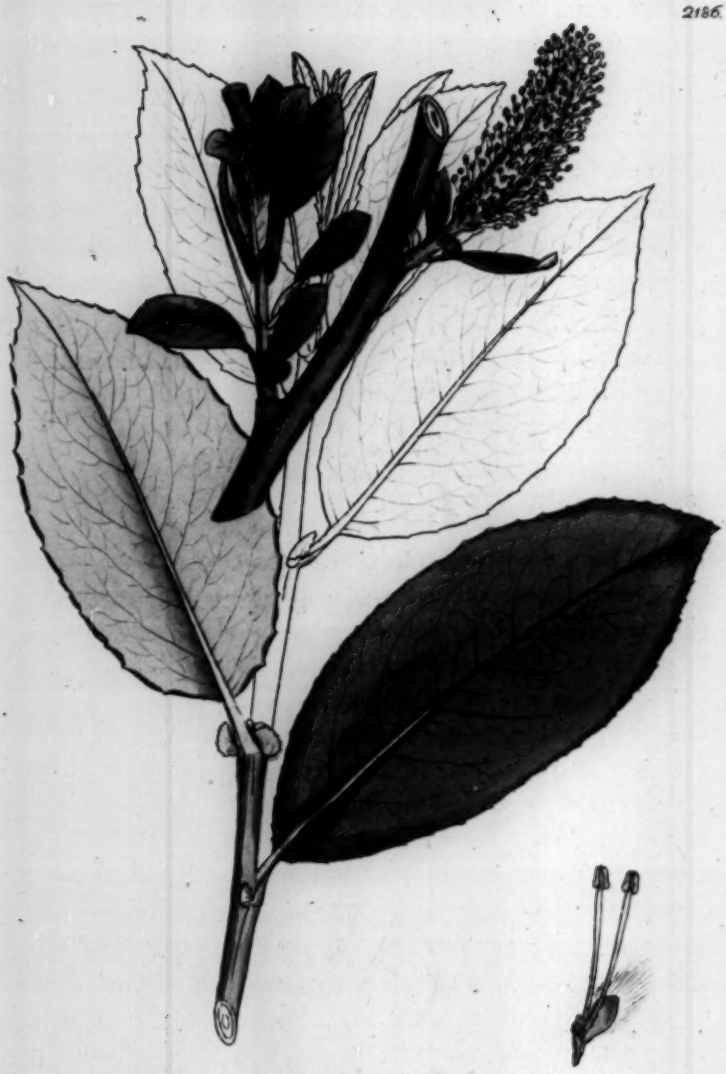
SPEC. CHAR. Sheaths very short. Spikes cylindrical, stalked; when in fruit pendulous. Fruit elliptical, inflated, obtuse.

SYN. Carex pallescens. *Linn. Sp. Pl.* 1386. *Sm. Fl. Brit.* 989. *Gooden. Tr. of Linn. Soc. v.* 2. 186. *Huds.* 410. *With.* 103. *Hull.* 208. *Lightf.* 558. *Relh.* 369. *Sibth.* 29. *Abbot.* 204. *Dicks. H. Sicc. fasc.* 4. 16. *Schkuhr. n.* 92. *t.* Kk. *f.* 99.

Gramen cyperoides polystachyon flavicans, spicis brevibus prope summitatem caulis. *Raii Syn.* 419.

COMMON in moist groves and pastures, flowering in May and June. It is known by its palish green colour when in fruit.

Root fibrous, perennial. Stem erect, 12 or 18 inches high, triangular, striated, the angles more acute and rough in the upper part; leafy at the base only. Leaves shortish, flat, pale, somewhat hairy, their edges roughish. Bracteas leafy, upright, rising above the stem, very slightly sheathing at their base. Male spike terminal, erect, lanceolate, dense, pale brown: female 2 or 3, on long slender smooth stalks, cylindrical, somewhat ovate, obtuse, soon pendulous. Glumes ovate, with a little point, yellowish brown, with a green keel. Fruit nearly equal to them in length, very obtuse, tumid, smooth, ribless, light green. Stigmas 3. Seed obovate, with 3 angles.



Aug 1 1820 published by J. Sowerby, London

SALIX tenuifolia.

Thin-leaved Willow.

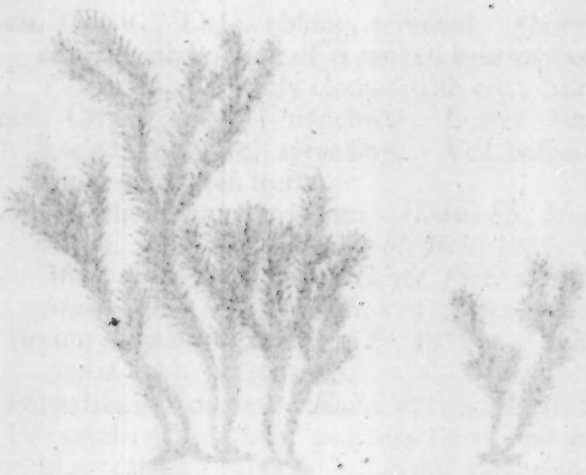
DIOECIA Diandria.

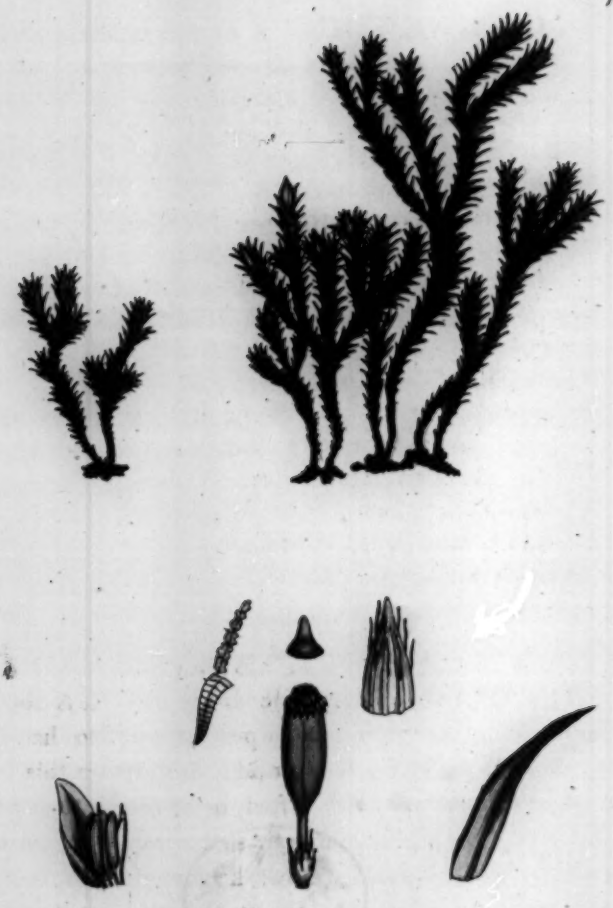
GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* & *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves elliptical, acute, serrated, smoothish, glaucous beneath. Stipulas small or none. Capsules very smooth.

SYN. Salix tenuifolia. *Sm Fl. Brit.* 1052.

DRAWN from the garden of Mr. T. F. Forster at Clapton, who received it from Scotland. We have with the greatest care compared it with our original specimens of *S. tenuifolia*, gathered near Kirkby Lonsdale bridge, and find no difference, except the greater size and luxuriance of the present plant, which rises to the height of a small tree. In consequence of this luxuriance, the stipulas are more considerable than in our wild specimens. It flowers in May.—The young branches are very slightly downy. Leaves elliptical, rather pointed, slightly serrated, besprinkled when young with fine close-pressed hairs; bright green above; glaucous and whitish beneath, reticulated with veins; the rib sometimes hairy. Stipulas small, somewhat falcate, serrated, smooth. Male catkins yellowish, about an inch long, with very hairy scales, which in Mr. Forster's plant are elliptical. Stamens two.—In the wild Westmoreland female shrub the catkins are finally an inch and half long, with ovato-lanceolate, smooth, sessile capsules, a long style, and rather thick notched stigmas.—The original Westmoreland plant seems to vary in degree of pubescence, and in shape of the scales of the male catkin.





Fontana pinxit et lithogr. by Jn. Sowerby London

ORTHOTRICHUM striatum.

Common Bristle-Moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem branched. Leaves lanceolate, keeled, revolute, spreading. Veil entire. Inner fringe of sixteen teeth.

SYN. Orthotrichum striatum. *Hedw. Sp. Musc.* 163. *Crypt. v.* 2. 99. *t.* 36. *Sm. Fl. Brit.* 1262. *Swartz. Musc. Suec.* 42. *Dicks. Crypt. fasc.* 4. 5. *Turn. Musc. Hib.* 95. *Winch. v.* 1. 106.

Bryum striatum. *Linn. Sp. Pl.* 1579, α. *With.* 810. *Abbot.* 236. *Relh.* 425.

Polytrichum striatum. *Huds.* 471, α. *Hull.* 248.

P. capsulis subrotundis, pediculis brevissimis insidentibus, calyptrâ striatâ, arboreum ramosum majus. *Raii Syn.* 91.

P. Bryi ruralis facie, capsulis sessilibus, majus. *Dill. Musc.* 430. *t.* 55. *f.* 8.

Weissia striata. *Sibth.* 287.

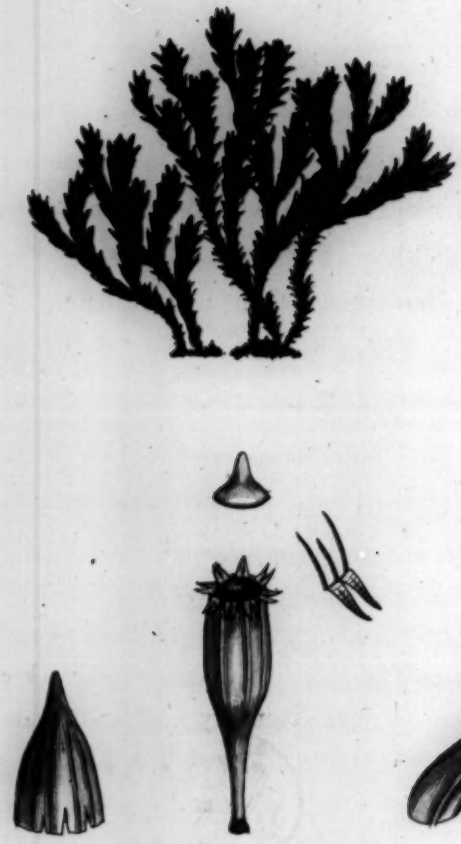
ONE of the few species of this very natural genus that is complete in its technical generic characters. It is not rare on the trunks of old trees, though perhaps more so than some of the more anomalous species already published in this work.

The stems are perennial, tufted, branched, leafy, an inch or two high, level-topped. Leaves spreading loosely, lanceolate, acute, pointless, entire, revolute, keeled, veinless, dark green; the upper ones palest, more expanded, and sometimes jagged at their extremities. Capsules on lateral shoots, extending a little beyond the leaves, furrowed in their upper part when ripe, scarcely twisted. Veil clothed with erect yellow hairs. Lid short, with a blunt cylindrical point. Outer fringe of 16 equal, flat, brownish teeth, occasionally reflexed; inner of 16 white, inflexed, jointed and jagged scales rather than bristles. Anthers in axillary clusters, on a separate plant.

ORTHOTRICHUM striatum.

Common Dwarf-Moss.

2188



Sep. 1.1810 published by Jas. Sowerby, Sowerby.

ORTHOTRICHUM rivulare.

River Bristle-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem branched. Leaves ovate, obtuse, revolute, pointless. Veil toothed, naked.

SYN. Orthotrichum rivulare. *Sm. Fl. Brit.* 1266. *Turn. Musc. Hib.* 96. *t.* 8.

COMMUNICATED from Ireland by Mr. Turner and Mr. Templeton. It is found upon stones in rivulets, and has the dull lurid hue usual in aquatic mosses.

The stems form loose tufts about two inches high, and are branched, nearly level-topped, and leafy. The leaves are of a dark dull green, spreading, ovate, obtuse, revolute, keeled, without any hair-like point; when dry they become closely pressed to the stem. Capsules terminating the branches, on short stalks, enveloped with the leaves, ovate, yellowish-brown, with 8 ribs. Veil pale brownish green, bell-shaped, quite naked, with 8 ribs, the margin torn, the point acute and brownish. Lid convex with a little straight point, the margin red. Fringe pale brown, or yellowish; the outermost of 16 teeth, united or approximated in pairs; the inner of 16 inflexed, slender, minutely jointed bristles.

ORTHOTRICHUM rivulare.

River Bristle-moss.

CRYPTOGAMIA Musci.

Gen. Char. Caps. cloloke, terminal. Outer fringe of 16 teeth: inner of 8 or 16 bristles; or none. Veil angular, mostly clothed with erect hairs.

Spec. Char. Stem branched. Leaves ovate, obtuse, revolute, pointless. Veil toothed, naked.

Syn. Orthotrichum rivulare. Sm. Fl. Brit. 1256. Turn. Musc. Hib. 96. t. 8.

COMMUNICATED from Ireland by Mr. Turner and Mr. Templeton. It is found upon stones in rivulets, and has the dull lurid hue usual in aquatic mosses.

The stems form loose tufts about two inches high, and are branched, nearly level-topped, and leafy. The leaves are of a dark dull green, spreading, ovate, obtuse, revolute, keeled, without any hair-like point; when dry they become closely pressed to the stem. Capsules terminating the branches, on short stalks, enveloped with the leaves, ovate, yellowish-brown, with 8 ribs. Veil pale brownish green, bell-shaped, quite naked, with 8 ribs, the margin torn, the point acute and brownish. Lid convex with a little straight point, the margin red. Fringe pale brown, or yellowish; the outermost of 16 teeth, united or approximated in pairs; the inner of 16 inflexed, slender, minutely jointed bristles.

Sepp. imp. published by J.s Sowerby Londn.

HYPNUM illecebrum.

Glass-wort Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem irregularly branched. Branches obtuse. Leaves elliptical, inflated, obtuse with a small point, and a single obsolete nerve.

SYN. Hypnum illecebrum. *Hedw. Sp. Musc.* 252. *t.* 66. *f.* 1, 2? *Sm. Fl. Brit.* 1314. *Huds.* 504. *With.* 862. *Hull.* 273. *Sibth.* 300. *Schreb. Lips.* 95. *Winch. v.* 1. 110.

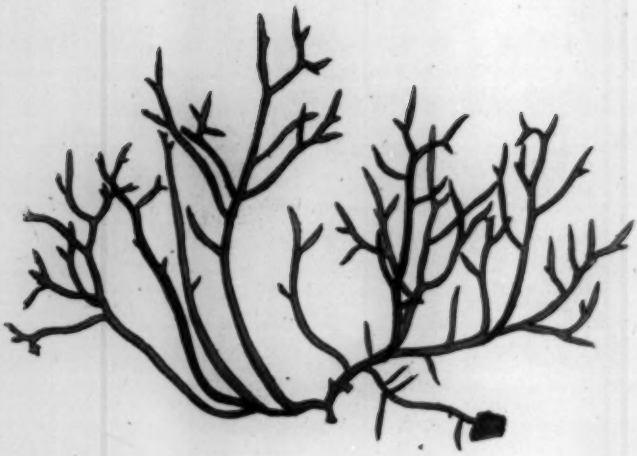
H. cupressiforme rotundius, vel Illecebræ æmulum. *Dill. Musc.* 311. *t.* 40. *f.* 46.

H. terrestre erectum, ramulis teretibus, foliis subrotundis albo-virentibus cinctis. *Raii Syn.* 81, under *n.* 7.

FEW plants have been more confused than this *Hypnum*, which is so very near *purum*, *t.* 1599, that many persons have thought it only a variety. It differs chiefly in its more turgid aspect, blunter branches, and broader more concave leaves. No fructification has ever been found upon it by any British botanist. It grows either in dry barren pastures, when the plant is short and upright, as gathered by the late Rev. Mr. Bryant at Heydon, Norfolk; or in damp more shady places, when, as in our specimens from Mr. Lyell, the stems are more elongated and procumbent, and the colour tinged with brown.

Dillenius's fig. C, copied from Vaillant, Bot. Par. t. 25, shows the capsules, which are ovate, short and curved; but we suspect the Pensylvanian moss, considered by him as agreeing exactly with this figure, may be different.

Linnæus's *H. illecebrum* is *Mnium arrhenopterum*, Sm. Tr. of L. Soc. v. 7. 262. Hedwig's is of Pensylvanian origin.



FUCUS acicularis.

Needle-branched Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond pale red, somewhat cartilaginous, thread-shaped, repeatedly forked; its segments spreading, sharp-pointed, beset with scattered thorn-like processes. Tubercles scattered, sessile, globular.

SYN. Fucus acicularis. *Turn. Hist. Fucor. v.* 2. 143. *t.* 126.

FOUND cast on the shore of Cornwall by P. Rashleigh, Esq. and at Belfast by Mr. Templeton, according to Mr. Turner, to whom we are obliged for a specimen.

Several fronds, 2 or 3 inches long, arise from one small callous base, and seem, as Mr. Turner suspected, to creep by their lower branches. Above they are subdivided, thread-shaped but occasionally somewhat flattened, loosely spreading, their upper part considerably branched and divaricated, with many short, sharp, spine-like, ultimate segments. The colour is a purplish red, white within. The fructification is said to consist of pale red globular lateral warts, but this we have never seen.

FUCUS capillaris.

Red Capillary Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond red, somewhat gelatinous, threadshaped, very much branched: ultimate segments awlshaped, short, crowded, imperfectly two-ranked. Seeds imbedded in some of the segments.

SYN. Fucus capillaris. *Huds.* 591. *With. v.* 4. 115. *Hull.* 329. *Gooden. & Woodw. Tr. of Linn. Soc. v.* 3. 231, *note. Turn. Syn.* 370. *Hist. Fucor. v.* 1. 65. *t.* 31.

WE are obliged to Sir Thomas Frankland for specimens of this rare plant, collected on the Scarborough coast. By his authority, decisive in such a case, it is declared to be *F. capillaris* of Hudson, a species concerning which all other botanists have been in doubt. Even Mr. Turner has been in the same predicament; but besides specimens from Sir T. Frankland, he has received some from Anglesea, equally authenticated by another correspondent of Mr. Hudson, the Rev. H. Davies.

This is a beautiful species, of a fine pink or crimson colour, and gelatinous substance, jointed like *Rivularia Opuntia, t.* 1868, and consisting of several fronds from one small callous base, each 8 or 10 inches high, threadshaped, much and repeatedly branched; the chief branches longest in the middle part of the frond, often nearly opposite; the subordinate ones mostly alternate, and, according to Hudson, inclined to be 2-ranked. The latter are very numerous and delicate, tapering at their base and summit, sometimes observed by Mr. Turner to lodge a row of red seeds in their centre. We observe some brownish lateral or imbedded warts, but dare not aver them to be any part of the fructification. This species is found in the summer, and presumed to be annual.

Curtis's Botanical Magazine, published by Jos. Curtis, London.

CONFERVA glomerata.

Green Cluster Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, very much branched. Branches alternate, clustered, pencil-shaped; the ultimate ones directed to one side. Joints cylindrical, five times as long as broad; their partitions pellucid.

SYN. Conferva glomerata. *Linn. Sp. Pl.* 1637. *Huds.* 602. *With. v.* 4. 140. *Hull.* 334. *Lightf.* 993. *Sibth.* 337. *Abbot.* 275. *Dillw. Conf. t.* 13. *Fl. Dan. t.* 651. *f.* 2.

C. fontalis ramosissima, glomeratim congesta. *Dill. in Raii Syn.* 59. *Musc.* 28. *t.* 5. *f.* 31.

C. viridis capillacea, brevioribus setis, ramosior, sive C. minor ramosa. *Moris. v.* 3. 644. *sect.* 15. *t.* 4. *f.* 2.

FOUND in very clear springs and rivulets in various places. Mr. Borrer sent us the specimen here represented from Sussex.—The whole plant is of a bright shining green, very smooth and slippery, but not viscid or gelatinous to the touch. The principal stems, which are several inches long, send off numerous threadshaped branches, and these bear fine clustered subdivisions, ultimately terminating in ranges of little short branches all directed one way, which give the plant a peculiar clustered or tuft-like aspect. The joints are very even, about 5 times as long as broad, with clear colourless partitions. Fructification hitherto unknown. Mr. Dillwyn presumes it, from analogy, to be capsular.—We were rather puzzled by this gentleman's criticism of Linnæus's Species Plantarum, the second edition of which is quite correct in quoting Dillenius, as above, though in the first, by an error of the press, *f.* 34 is put for 31. Mr. Dillwyn, it seems, has been using Reichard's edition, in which is the gross error, justly reprehended by him, of citing t. 5. f. 32, and f. 28, 29, none of which has any agreement with this plant. So important is it to study authentic editions!

Sep. 1 1810 published by Jas. Sowerby London

ULVA montana.

Red Mountain Laver.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* membranous or gelatinous. *Seeds* solitary, scattered throughout its substance, under the cuticle.

SPEC. CHAR. Frond leathery, dark red, of numerous, ascending, rounded, flattish, finely granulated lobes.

SYN. Ulva montana. *Lightf.* 973. *Huds.* 652. *With. v.* 4. 122. *Hull.* 314.

WE have authentic specimens, from the Rev. Dr. Burgess and his son, of this curious plant from the hills of Dumfriesshire. Lightfoot, who alone has described it, for other authors only copy him, says it grows on the ground, amongst grass and moss, on the sides of mountains in Skye, Rossshire, &c., and that "the Highlanders wash it, and rub it between their hands into some water, so as to make a thin pulpy mixture, and with this they purge their calves." It is called Mountain Dulse, and has the smell, with much of the appearance, of *Fucus palmatus, t.* 1306, though sufficiently different from that submarine plant in character, as well as in station.

The fronds are of a deep blood-red, with a tinge of dull green here and there, and lie on the ground, according to Lightfoot, without visible roots. They consist of several ascending, flattish, rounded, occasionally notched, lobes, which support each other, and differ in breadth from half an inch to 2 or 3 inches. Their substance when moistened is rather coriaceous, but soft and pulpy, besprinkled internally with fine granulations, which though immersed in the substance, project so as to raise the cuticle into minute points, that give a roughness to the surface. The plant before us resembles in habit and mode of growth the *Tremella Nostoc, t.* 461, but seems essentially different, as having the generic character of *Ulva.*

As it was published by Jn.° Evans & Co. London.

ULVA rupestris.

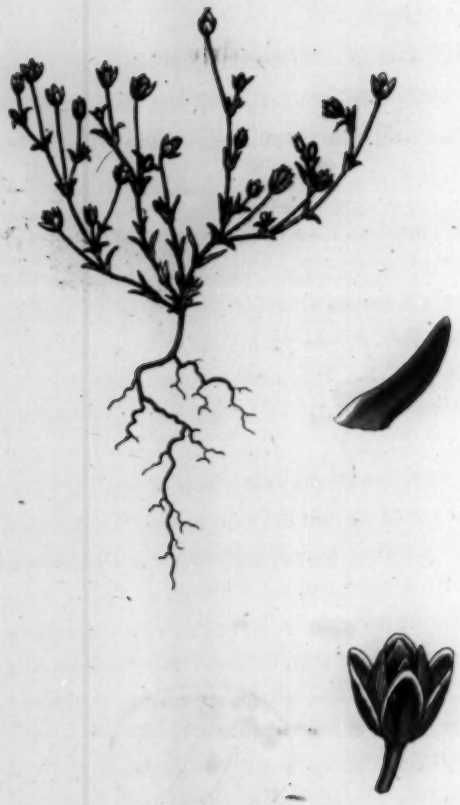
Broad Rock Laver.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* membranous or gelatinous. *Seeds* solitary, scattered throughout its substance, under the cuticle.

SPEC. CHAR. Frond leathery, depressed, very wide, indeterminate, smooth and slippery, dull red.

THIS singular nondescript never came under my observation but once, nor can I meet with any botanist who is acquainted with it. The plate represents a small fragment of the frond, which was 2 or 3 feet wide, and spread like a piece of very wet leather, of a jagged indeterminate outline, over the nearly upright face of a rock, bathed with a perpetual trickling rill, at some distance above Tylogé bridge in the "new walk" in Mr. Johnes's grounds at Hafod, Cardiganshire; as mentioned in the Tour to Hafod, lately published, p. 15. It much resembled in thickness and appearance, except in being of a dull red or greenish-brown hue, a very wet skin of washed-leather, but was far less tenacious, being with difficulty stripped entire from the rock, though it did not seem fixed by any evident roots. It dried well and speedily, adhering slightly to paper, and shrinking considerably in width. The surface is smooth on both sides. On being moistened now, at the distance of 10 or 12 years, it recovers its original appearance, and numerous granular dotted bodies are found under the cuticle of the upper surface, imbedded amongst the internal fibres. It is surely generically and specifically akin to *U. montana* in the preceding plate, but we presume it cannot be a mere variety caused by situation.



Published by Jas. Shaverby, London.

SAGINA maritima.

Sea Pearlwort.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* 4-leaved. *Petals* 4. *Capsule* of 1 cell.

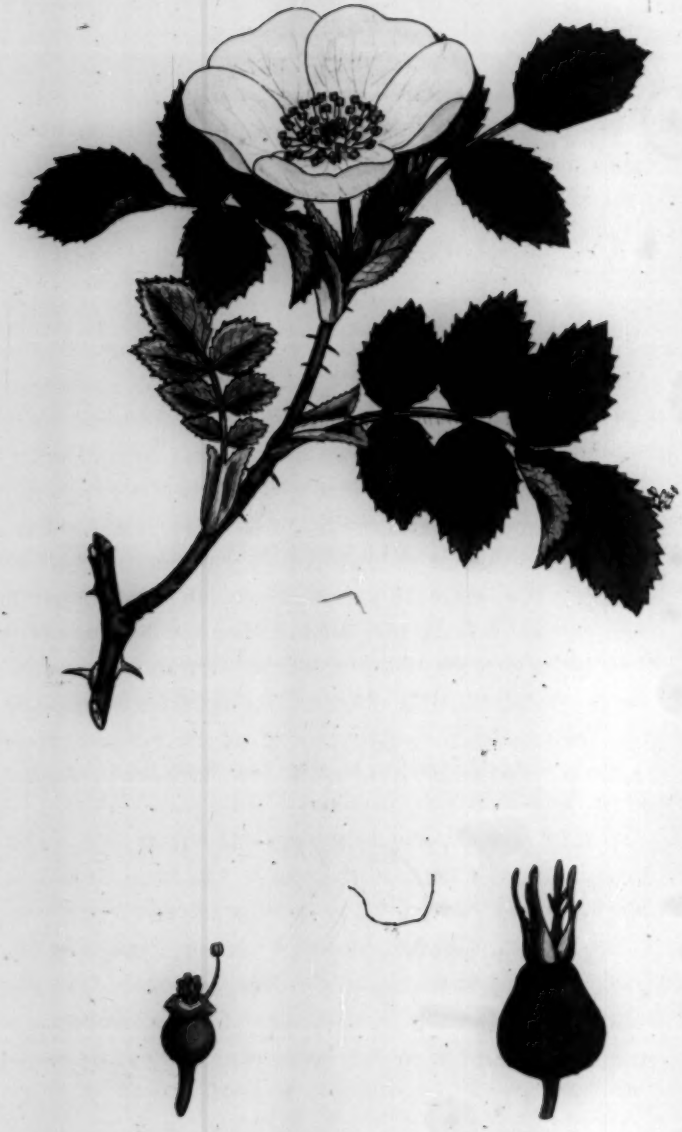
SPEC. CHAR. Stems nearly upright, divaricated, smooth. Leaves obtuse, without bristles. Petals obsolete.

SYN. Sagina maritima. *Don Herb. Brit. fasc.* 7. 155.

WE originally received this plant from Mr. R. Brown, who gathered it in 1799, at Bally-castle in Ireland, near the Giant's Causeway. Mr. G. Don sent the same from the summit of Ben Nevis in 1803, and we find no difference between this and his *S. maritima*, gathered on various parts of the Scottish coast. It is annual, flowering from May to August.

The root is small and slender. Stems several, 2 to 4 inches high, some of them decumbent at the base, then ascending or nearly upright, much branched, partly forked, and spreading; they are round, smooth, leafy, frequently purplish. Leaves opposite at each joint, clasping the stem with a peculiarly white and conspicuous membranous edge. Their form is short, thick and blunt, inclining to spatulate, often tipped with a minute point, but no bristle, and the base is very rarely slightly fringed. Flower-stalks axillary, lateral or terminal, slender, erect, from half an inch to an inch long. Calyx of four broad-ovate, obtuse leaves, with a white membranous edge. Petals minute, often altogether wanting. Stamens observed by Mr. Don to be sometimes eight. Capsule of four ovate valves, about the size and shape of the calyx.

The capsule of *S. apetala*, *t.* 881, is twice as long as the calyx, and the linear leaves, tipped with a bristle, as well as the hairy stems, sufficiently mark that species. The present agrees more in character with *procumbens*, *t.* 880, but differs widely in habit, and is not procumbent nor perennial.



Sprat published by Jas. Sowerby London

ROSA hibernica.

Irish Rose.

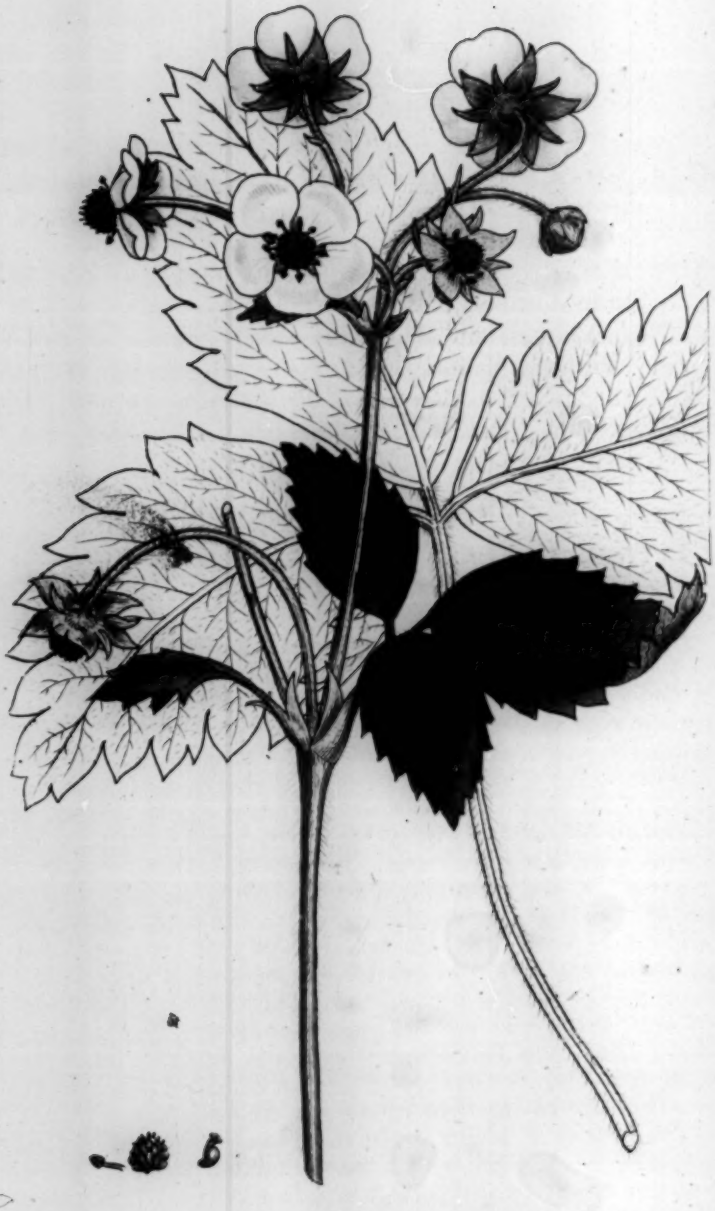
ICOSANDRIA Polygynia.

GEN. CHAR. *Cal.* urn-shaped, fleshy, contracted at the orifice, terminating in *5* segments. *Petals 5.* *Seeds* numerous, bristly, fixed to the inside of the calyx.

SPEC. CHAR. Fruit nearly globose, smooth, as well as the flower-stalks. Prickles of the stem slightly hooked. Leaflets elliptical, smooth, with hairy ribs.

DISCOVERED many years ago in the county of Down, about Belfast harbour, where it grows abundantly, by our often-mentioned friend John Templeton, Esq., who consequently found himself entitled to the reward of 50*l.* so liberally offered by the patrons of botany at Dublin for the discovery of a new Irish plant. We adopt the name by which Mr. Templeton has communicated wild specimens to us, for the singularity of the anecdote, and that we may not rob him or his countrymen of a particle of their honours. Otherwise we profess ourselves totally adverse to geographical specific names, except of the most comprehensive kinds, like *borealis*, *europæa*, *americana*, *&c.*

This is easily known from every described Rose with a globose germen, by the above characters. The fruit indeed is slightly elongated upwards, so as to approach an ovate figure, but is always round and broad at the base. The stem is 6 feet high, upright, much branched and very prickly. Prickles scattered, slightly hooked or deflexed. Leaflets broad-ovate or roundish, smooth, their ribs and veins hairy at the back, as in *R. collina* and *scabriuscula*, *t.* 1895, 1896. Flower-stalks often solitary, often 2 or 3 together, smooth. Petals pale blush-coloured. Styles distinct at the base. It is remarkable for continuing in blossom from the early part of June till the middle of November. The scarlet fruit distinguishes this species from every variety of *R. spinosissima*, *t.* 187.



Pubd as the Act directs by J.T. Serres, Piccadilly.

FRAGARIA elatior.

Hautboy Strawberry.

ICOSANDRIA Polygynia.

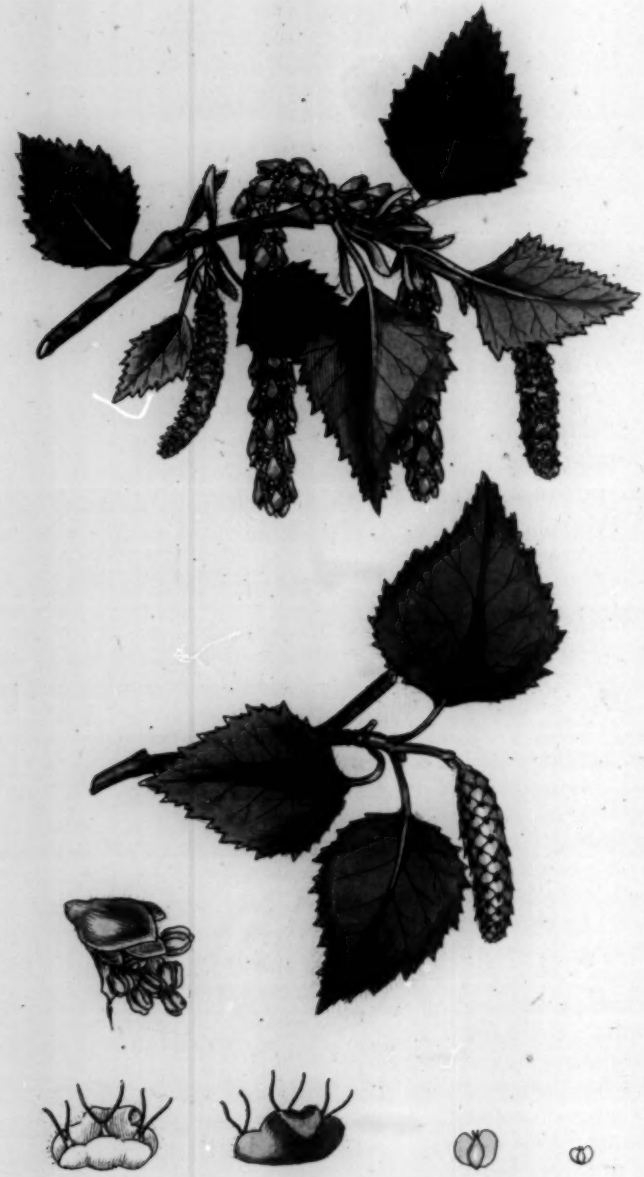
GEN. CHAR. *Cal.* inferior, in 10 segments. *Petals* 5. *Receptacle* of the seeds ovate, pulpy, deciduous. *Seeds* smooth.

SPEC. CHAR. Calyx of the fruit reflexed. Hairs of the foot-stalks, and of all the flower-stalks, widely spreading, somewhat deflexed.

SYN. Fragaria elatior. *Ehrh. Beitr. fasc.* 7. 23. *Willd. Sp. Pl. v.* 2. 1091. *Sm. in Rees's Cyclop. v.* 15. *n.* 4.
F. et fraga. *Lob. Ic. v.* 1. 697. *Ger. em.* 997. *f.* 2.
F. major et minor. *Fuchs. Hist.* 853.

GATHERED, certainly wild, in a wood on the west side of Tring, Hertfordshire, by Mr. Dickson, Mr. Jackson and Mr. Anderson; also in Charlton forest, Sussex, by Mr. W. Borrer. Ours was an autumnal specimen, flowering in September. We have in vain tried to get wild fruit, which it seems is rarely produced. Even in a garden indeed it is never plentiful, owing to the plants being in effect dioecious, or having imperfect stamens from one root, and abortive pistils from another.—This *Fragaria* appears to have been confounded by modern European botanists in general with the *vesca*, or Common Wood Strawberry, *t.* 1524, but Ehrhart, paying attention to the pubescence, distinguished them. It is a larger plant, and essentially differs in having the hairs of the partial flower-stalks widely spreading, or even deflexed; whereas in *vesca* they are erect, or generally close-pressed, giving such stalks a silky or silvery aspect, while those of the main stalks spread in both species. This difference the wooden cuts of the old authors plainly indicate. See the books above cited, and Brunfelsius's exquisite figure of *F. vesca*, *v.* 2. 35. Our *t.* 1524 unhappily is faulty in this respect, from our not having then attended to the subject.

The fruit of *F. elatior* is the real Hautboy, of a dark livid red, very round, and with a musky perfume, not the Carolina or Chili Strawberry, vulgarly called Hautboy in London.



Jun. 1. 1830. Published by Jas. Sowerby London.

BETULA alba.

Common Birch.

MONOECIA Tetrandria.

GEN. CHAR. Male, *Cal.* scale of a *catkin*, of 1 leaf, 3-flowered. *Cor.* none. *Stam.* 10—12. Female, *Cal.* scale obscurely 3-cleft, 3-flowered. *Cor.* none. *Styles* 2. *Seeds* compressed, winged.

SPEC. CHAR. Leaves ovate, acute, somewhat deltoid, unequally serrated, smoothish.

SYN. Betula alba. *Linn. Sp. Pl.* 1393. *Sm. Fl. Brit.* 1012. *Willd. Sp. Pl. v.* 4. 462. *Huds.* 416. *With.* 206. *Hull.* 210. *ed.* 2. 281. *Relh.* 374. *Sibth.* 64. *Abbot.* 207.

Betula. *Raii Syn.* 443. *Ger. em.* 1478.

β. B. pendula. *Roth. Germ. v.* 1. 405. *v.* 2. *p.* 2. 476.

B. verrucosa. *Ehrh. Arb.* 96.

ABUNDANT in mountainous woods, and one of the most hardy of trees, thriving even in the driest sandy soil, and never hurt by any cold of this climate. It flowers in April and May, and rises to the height of a moderate tree. The wood is hard, tough and white. Trunk clothed with a snow-white bark or cuticle, of many paper-like layers, very conspicuous amongst other trees; cracked, rugged and dark when old. Branches elongated and elegantly drooping; in the variety β longer and warty. Leaves alternate, stalked, triangular inclining to ovate, pointed, variously and unequally serrated, smooth, except a slight downiness at the back, which is variable. The young branches are also often downy. In autumn the foliage at length assumes a full yellow colour. Catkins drooping, the scales of the female ones deciduous.

We are convinced of the propriety of separating *Alnus* as a genus. Its characters are properly given at *t.* 1508, and we here reform those of *Betula*.

We have often studied the Birch and its varieties in the Welch woods, wishing if possible to find constant specific marks for the weeping kind, which by Ehrhart's specimens looks distinct; but the wartiness, as well as the downiness, of the branches seemed variable, and each rather to indicate a variety than a species. Mr. Sowerby finds 3 flowers to each scale of the female catkin; the *Alnus* has but two.

B.M. 1893-3-11

ASPIDIUM irriguum.

Brook Shield-fern.

CRYPTOGAMIA Filices.

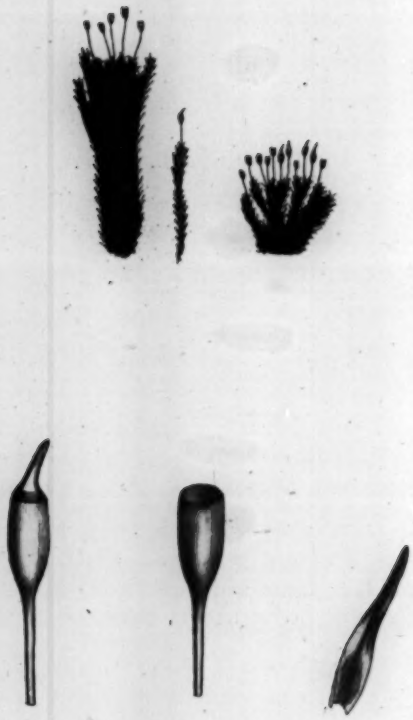
GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond lanceolate, pinnate; leaflets deeply pinnatifid, cut and sharply toothed. Stalk quadrangular. *Involucrum* lateral, short, jagged.

DISCOVERED by T. F. Forster, Esq., about the watery margins of clear springs near Tunbridge wells. Our figure was taken in June, 1810, from a living plant in his garden, not at all changed by cultivation.

We can find no described fern, nor any exotic or British specimen, that accords with this. It agrees in some points with *A. Thelypteris*, (*Polypodium Thelypteris*, *t.* 1018,) but is much smaller, more tender and delicate, neither has it a creeping root. The main rib is exactly square, and of a delicate transparent green when living, pale brown when dried. Leaflets numerous, alternate, very deeply and copiously pinnatifid, their segments ovate-oblong, sharply cut and toothed, merely connected at the base by a sort of wing from the partial rib. Dots of fructification several about the lower part of each segment, small, round, brown, not reddish. Involucrum short and oblong, or somewhat square, very delicate, whitish, jagged or fringed at its edge, affixed laterally to the nerve of each segment, and separating inwards. It is scarcely umbilicated, but rather more approaches to the nature of our *Cyathea fragilis*, *t.* 1587, and *dentata*, *t.* 1588; yet as there is some doubt respecting even their genus, and the involucrum of the present fern has nothing of a cup shape, we rather refer it, like *t.* 2024, to *Aspidium*. It does not by any means agree with the character of Bernhardi's *Cystopteris*, Schrad. New Journ. v. 1. fasc. 2. t. 2, founded on *Cyathea fragilis*.

2200.



Published by Jas. Sowerby Londn.

GYMNOSTOMUM æruginosum.

Verdigrise Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous. *Veil* separating entire from the base.

SPEC. CHAR. Stem branched, tufted. Leaves awl-shaped, keeled, entire. Capsule bell-shaped. Lid obliquely beaked.

SYN. Gymnostomum æruginosum. *Sm. Fl. Brit.* 1163. Bryum fasciculatum. *Dicks. Crypt. fasc.* 3. 3; on his own authority. *Mr. Eagle.*

THE specimens described in *Fl. Brit.* were gathered in North Wales by Mr. Griffith, and constitute the tallest tuft in our plate; the lower tuft, with the lid, was gathered by Mr. Eagle, F.L.S., on a wet rock in the north-west corner of Yorkshire, in August, 1806.

This moss Mr. Eagle assures us is certainly Mr. Dickson's *Bryum fasciculatum*, which we have referred to *Grimmia verticillata*, t. 1258; but it is different from *Gymnostomum curvirostrum* of Hedwig and *Fl. Brit.* 1164.

It grows in moist alpine spots, and is perennial, bearing fruit in summer. The stems form dense tufts, various in height, and are erect, branched, clothed all over with leaves, which are permanent, imbricated, slightly spreading, incurved by drying, awlshaped, or rather lanceolate, channelled, entire, bright green with a verdigrise cast, and have a prominent rib. Fruitstalks erect, capillary, nearly straight, pale brown. Capsule upright, ovate, or rather bell-shaped, brown, shining, certainly destitute of a fringe. Lid nearly half as long, awl-shaped, bent obliquely, red at the base.

as published by J.t Sowerby London.

GYMNOSTOMUM luteolum.

Yellowish Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous. *Veil* separating entire from the base.

SPEC. CHAR. Stem branched, tufted. Leaves lanceolate, concave, keeled. Capsule oblong. Lid hemispherical, pointless.

SYN. Gymnostomum luteolum. *Sm. Fl. Brit.* 1163.
G. æstivum. *Hedw. Sp. Musc.* 32. *t.* 2. *f.* 4—7.

SENT by the Rev. H. Davies from Wales. Mr. Dickson, Mr. Turner and Mr. Hooker assure us it is common on the mountains of Scotland. It has been taken for the Linnæan *Bryum æstivum*, which is Dillenius's t. 47. f. 36, referred in *Fl. Brit.* to *G. curvirostrum*; but Mr. Eagle, who has accurately studied the subject, and who we hope will illustrate it, thinks all the three are distinct.

The present is certainly distinct enough from our *G. æruginosum*, *t.* 2200. The foliage is of a more yellow cast, though not much differing in shape, but much more incurved and twisted when dry. The fruitstalk was found by Mr. J. D. Sowerby to have a very remarkable scaly sheath at its base, like a *Hypnum*. The capsule is ovate and elongated, not bell-shaped, of a pale brown. Lid essentially different, in being merely convex, with a minute protuberance, like the boss of a shield, not elongated or awlshaped.

Published by Jos. Sowerby, London

GYMNOSTOMUM stelligerum.

Star-topped Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous. *Veil* separating entire from the base.

SPEC. CHAR. Stem branched, spreading. Leaves linear-lanceolate, spreading; the uppermost stellated. Capsule hemispherical. Lid oblique.

SYN. Gymnostomum stelligerum. *Schrad. Journ. v. 2. 55. Bridel. Muscol. v. 1. 46. Sm. Fl. Brit. 1164.*

Bryum stelligerum. *Dicks. Crypt. fasc. 2. 3. t. 4. f. 4. With. 823. Hull. 253.*

ALL our knowledge of this little moss is derived from a specimen given by Mr. Dickson, who found it in woods in the highlands of Scotland. The stems are erect, but the branches spread much, and seem to have their annual shoots very distinctly defined. Leaves alternate, crowded, light green, linear-lanceolate, somewhat ovate at their base, entire, keeled, with a strong mid-rib; the upper ones elongated, and spreading in the form of a star. Fruitstalks solitary, terminal, though overtopped by the more recent shoots, upright, straight, red Capsule short and nearly hemispherical, its mouth being very wide. Its colour is a bright shining bay. Lid flat, with a taper point, as long as the capsule, and somewhat curved.

Published by J.d Sowerby London.

GRIMMIA crispula.

Lesser Curled Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves lanceolate, with a long channelled point, keeled; incurved and crisped when dry. Capsule elliptical. Lid awlshaped, oblique.

SYN. Grimmia crispula. *Sm. Fl. Brit.* 1192. *Turn. Musc. Hib.* 28.

Weisia crispula. *Hedw. Sp. Musc.* 68. *t.* 12. *f.* 1—6.

FOUND in the black turfy chinks of rocks that are rather moist. The Rev. H. Davies sent from Anglesea the specimens described in *Fl. Brit.* which are in an advanced state, deprived of all their capsule-lids. Those in our plate were gathered on Hamsil Forge rocks near Tunbridge, by Mr. W. Borrer. Dr. W. Stokes is recorded by Mr. Turner as having detected this moss by the cascade at Powerscourt, near Dublin. We have never been so fortunate as to gather it.

The stems are branched, tufted, level-topped, various in height, leafy. Leaves imbricated, of a bright yellowish green when young, but, like other mosses that grow in wet situations, assuming a blackish tint afterwards; and yet when old and withered they change again to a lighter brown, in which state they are permanent on the lower part of the stems. Their form is lanceolate, or almost ovate, at the base, extending upwards into a long, channelled, acute, incurved point, with a strong mid-rib, the edges entire. By drying they become still more incurved and twisted. Fruitstalks about half an inch long, slender, straight, yellowish; reddish below; sometimes turning black at the top by age. Capsule small, exactly elliptical, smooth, membranous, pale brown, somewhat inclining when young, but afterwards erect, with a red narrow mouth and fringe, the former turning finally black. Lid awlshaped, oblique, about as long as the capsule.

published by J.t Sowerby London.

LICHEN Westringii.

Speckled Coral-crusted Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust tartareous, brownish, papillary, uneven, orbicular with a thin flat edge; internally somewhat fibrous and branched. Tubercles minute, dark brown, internally red, terminating the branches.

SYN. Lichen Westringii. *Ach. Prod.* 88. *t.* 2. *f.* 2.
Isidium Westringii. *Ach. Meth.* 138. *Winch. v.* 2. 47.

SPECIMENS of this curious Lichen, exhibited in our plate, were gathered on walls in the county of Durham by the Rev. Mr. Harriman, and communicated to us by the Rev. G. R. Leathes. It mostly grows on micaceous rocks, and, as Mr. Turner assures us, has been found in Ireland. Dr. Acharius named this species after his friend Westring, its first discoverer.

It differs from *corallinus*, *t.* 1541, in being not white, but of a dingy brown, speckled, or scorched, appearance; neither is it so branchy or fibrous internally, being rather solid, with a rugged or plaited surface in many parts, while in others cylindrical knobs rise out of the crust, and in many the latter consists of clustered branches like *corallinus*. The edge is thin, close-pressed, spreading, sometimes limited by a black line. Numerous little round convex tubercles, red or deep dull orange internally, terminate the branches or knobs, and sometimes hardly rise above the crust.

We cannot well satisfy ourselves about the character of the Acharian genus *Isidium*, which describes the disk of the tubercles as a ball bearing seeds on both sides.

We believe Mr. Dickson's *L. punctatus* to be not this, but a nondescript *Lecidea*.

CONFERVA thuioides.

Arbor-vitæ Conferva.

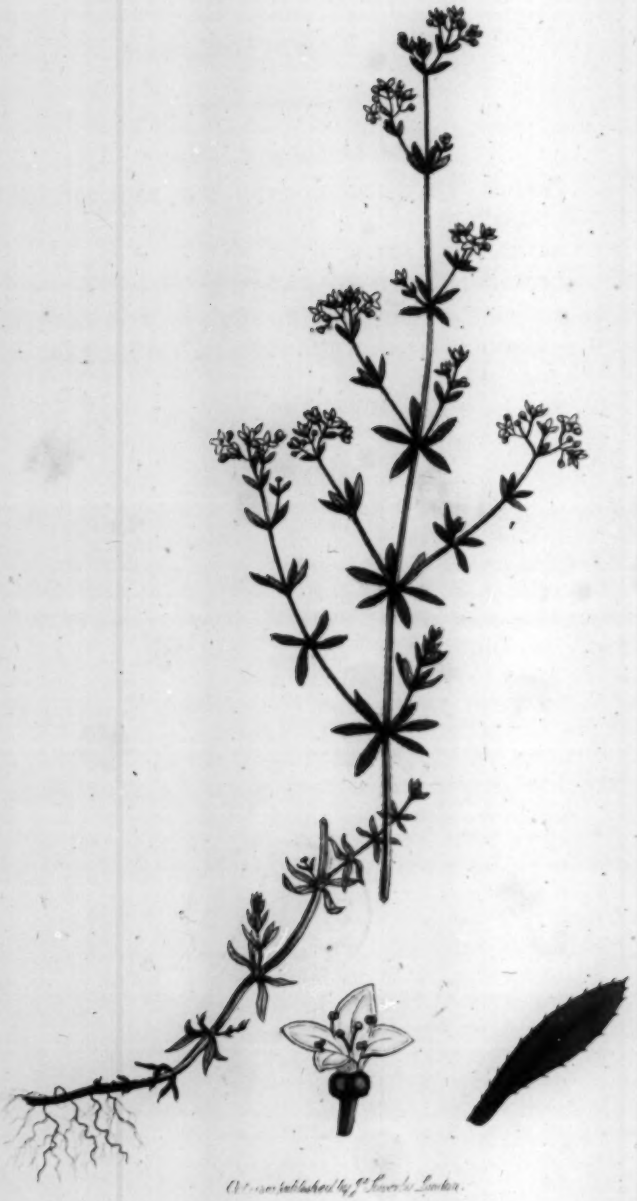
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Rose-coloured, repeatedly branched, very slender and tufted. Joints cylindrical, with pellucid partitions. Branches zigzag; their lateral shoots alternate, compound, with very short joints.

MR. W. BORRER, to whom we are obliged for this *Conferva*, has found it on Yarmouth beach, several different years, in September and October.—Mr. Turner is of opinion that it was comprehended by Mr. Dillwyn under his idea of *parasitica*, in his *Synopsis*, p. 87, from which being very distinct, it is consequently a nondescript in that valuable catalogue.

It differs essentially from *parasitica*, *t.* 1429, in not belonging to the tribe we have so often noticed with compound or aggregate joints, but on the contrary it has the simply tubular structure of *rosea*, *t.* 966, to which last the present species is most allied. The joints of the stem and main branches however, though variable, are usually longer, and the subdivisions are far different from those of *rosea*. Along the main branches, which are zigzag, run several beautiful alternate ones, in two ranks, all about equal in length, twice or thrice compound, consisting of regular, short, bead-like joints, each of which is about as long as broad. We know nothing of the fructification.



Published by J. Sowerby, London.

GALIUM Witheringii.

Rough Heath Bed-straw.

TETRANDRIA Monogynia.

GEN. CHAR. *Cor.* of one petal, flat, superior. *Seeds* 2, roundish.

SPEC. CHAR. Leaves about five in a whorl, widely spreading, lanceolate, slightly awned, fringed with bristles. Stem upright, slightly branched, rough.

SYN. Galium Witheringii. *Sm. Fl. Brit.* 174. *Hull. ed.* 2. 44.

G. montanum. *With.* 187. *t.* 28; not of Linnæus.

DR. WITHERING found this *Galium* on high but boggy parts of Handsworth heath near Birmingham, and took it for the Linnæan *montanum*, which being a very different plant, it was thought right to commemorate the discoverer of the new one in its specific name. We have indeed the same in Mr. Rose's herbarium, mistaken for *uliginosum*, but have never gathered any ourselves. The Bishop of Carlisle favoured us with specimens gathered last July in Bank Meadow, close to his Lordship's fine seat of Rose Castle, Cumberland. It grows in a moist but rather barren spot, not smothered with high grass, near *Linum catharticum*, small *Agrostis vulgaris*, and some *Potentilla anserina*.

The stem, though upright, is weak, about a foot high, either quite simple, or bearing a few lateral branches; its edges rough with deflexed hooks. Leaves about 5 in a whorl, sometimes 6, on the weak parts 4, widely spreading or deflexed, small, elliptic-lanceolate, often tipped with a minute bristly point, their edges fringed with short bristles or hooks pointing towards the apex. Panicles small, terminal, 3-forked, their stalks smooth except the main one. Buds purplish. Corolla cream-coloured when expanded. Anthers at first of a pale yellow green, but they directly turn red, reddish, or red brown. Style short, cloven. Stigmas globular, green. Germen and fruit smooth.

This completes our descriptions of the genus *Galium*, as far as hitherto discovered in Britain; but Switzerland and France afford several kinds which might be expected to grow with us, and which perhaps have been overlooked, they being often very similar to each other; and there are few genera whose synonymy is more difficult.

Published by J. Sowerby, Lond.

CISTUS surrejanus.

Dotted-leaved Cistus.

POLYANDRIA Monogynia.

GEN. CHAR. *Cal.* of 5 leaves, 2 of which are smaller than the rest. *Petals* 5. *Caps.* superior, angular, with 3 valves and many *seeds.*

SPEC. CHAR. Shrubby, procumbent, with pointed stipulæ. Leaves ovate-oblong, hairy and dotted beneath. Petals lanceolate. Stamens not longer than the germen.

SYN. Cistus surrejanus. *Linn. Sp. Pl.* 743. *Sm. Fl. Brit.* 575. *With.* 492. *Hull. ed.* 2. 160. *Hill. Fl. Brit. t.* 27. *f.* 1.

C. Helianthemum δ. *Huds.* 233.

Helianthemum vulgare, petalis florum perangustis. *Dill. in Raii Syn.* 341. *Hort. Elth.* 177. *t.* 145. *f.* 174.

MR. EDWARD DU BOIS discovered this curious species in the neighbourhood of Croydon, Surrey, in the time of Dillenius, who first made it known to the botanical world in his edition of Ray, and then in the *Hortus Elthamensis.* We know not where it is now to be met with wild, nor has it ever been noticed in other countries. Our specimen grew in Mr. Dickson's garden at Croydon, flowering in July.

Though the plant never varies in consequence of culture, some of the above circumstances might induce a suspicion of its being only a variety of *C. Helianthemum, t.* 1321; but the leaves are larger, more inclined to a lanceolate than an elliptical figure, paler but not at all hoary beneath. The under surface bears a few stellated hairs, and is besprinkled with little hollows, which on the upper side form prominences that often bear 2 or 3 simple, not stellated, bristles. Flowers numerous, in long, terminal, recurved, downy clusters; each flower erect when in perfection. Calyx with red ribs. Petals narrow, lanceolate, oblique, often toothed, acute, usually rather longer than the calyx. Stamens scarcely longer than the germen, not, as in *C. Helianthemum,* equal to the petals.

Oct 1 1810 as published by Sir Thomas Dick

CISTUS tomentosus.

Downy Cistus.

POLYANDRIA Monogynia.

GEN. CHAR. *Cal.* of 5 leaves, 2 of which are smaller than the rest. *Petals* 5. *Caps.* superior, angular, with 3 valves and many *seeds*.

SPEC. CHAR. Shrubby, procumbent, with pointed stipulæ. Leaves elliptic-oblong, white, and downy with starry pubescence, beneath.

SYN. Cistus tomentosus. *Scop. Carn. ed.* 2. *v.* 1. 376. *t.* 24.

THIS *Cistus* has been communicated several times to us and to others by Mr. G. Don from Scotland; and Mr. Dickson, who has likewise gathered it there, favoured us with a specimen from his garden last July. Every body contends that it is very different from *C. Helianthemum*, *t.* 1321, and indeed it proves to be Scopoli's *tomentosus*, of which we have an authentic specimen from that excellent botanist himself. Without such help no person could have settled this point, his figure being very bad, and his definition not so satisfactory as usual. Accordingly, no writer has taken up this plant of Scopoli, and we cannot but congratulate ourselves on being able to ascertain it.

Notwithstanding all the above, we are still at a loss for a decisive specific character, nor does Scopoli indicate any thing that holds good, even in his own specimen. The leaves, flower-stalks and calyx are usually much more hoary and downy than in *Helianthemum*, but cultivation impairs this. The dense white clothing of the backs of the leaves consists of starry pubescence, which is the case in that, though the rest of its pubescence is simple. The flowers are large and handsome, with crumpled golden petals. The leaves on the young axillary shoots are peculiarly round.

Now first published by Jas. Sowerby, London.

SCROPHULARIA Scorodonia.

Balm-leaved Figwort.

DIDYNAMIA Angiospermia.

GEN. CHAR. *Cal.* 5-cleft. *Cor.* somewhat globose, reversed. *Caps.* superior, 2-celled.

SPEC. CHAR. Leaves heart-shaped, doubly serrated, downy beneath. Cluster leafy.

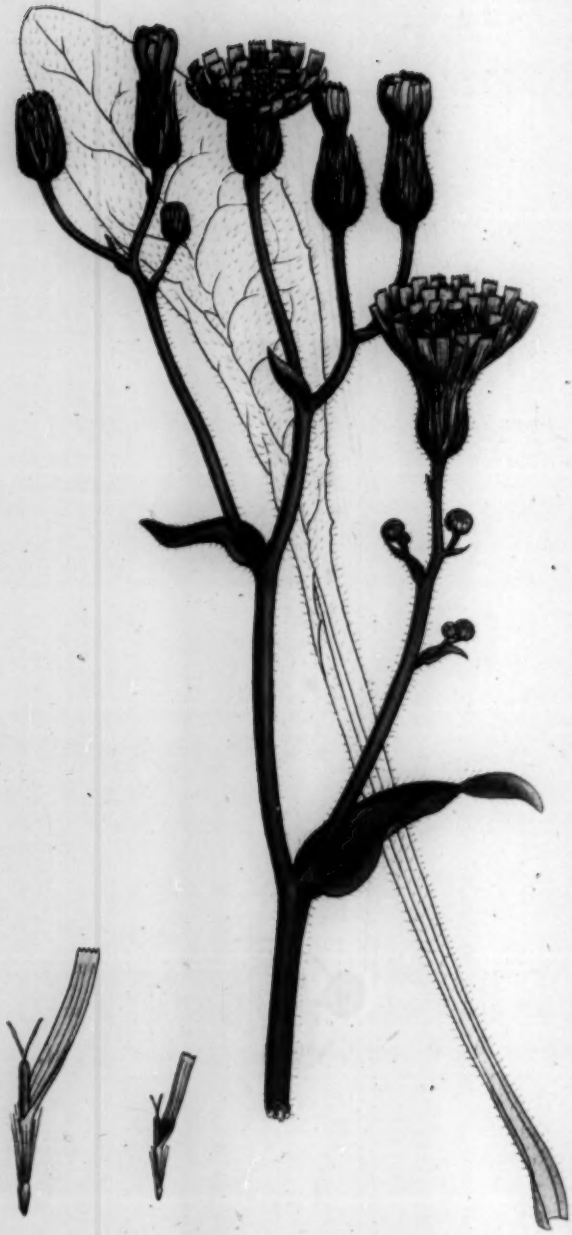
SYN. Scrophularia Scorodonia. *Linn. Sp. Pl.* 864. *Sm. Fl. Brit.* 664. *Huds.* 275. *With.* 553. *Hull. ed.* 2. 183. *Dicks. H. Sicc. fasc.* 15. 9.

S. Scorodoniæ folio. *Raii Syn.* 283.

FIRST remarked by Sherard at the sides of rivulets between the port and St. Hilary, Jersey, and since by Mr. Edward Lhwyd about St. Ives in Cornwall. In the latter station Hudson, Dickson and others have gathered this plant, which is scarcely met with elsewhere in Britain. We have been obliged to draw a garden specimen, which differs in no respect from wild ones. It is perennial, and flowers in July and August.

The stems are 2 or 3 feet high, or more, square, leafy, branched, covered with soft spreading hairs. Leaves stalked, heart-shaped, various in size and length, acute, doubly serrated, veiny, 3-nerved at the base as in *S. nodosa*, *t.* 1544, clothed all over, but most abundantly at the back, with soft downiness. Flowerstalks axillary and terminal, doubly forked; the upper ones alternate; all together constituting a terminal, upright, leafy, downy cluster. Flowers paler than in most of this genus. Calyx downy, obtuse. Capsule smooth, roundish or ovate, pointed. Seeds numerous, angular.

This is scarcely to be seen but in curious botanic gardens, having no beauty nor any other quality to recommend it to general notice.



Pub. as published by J. Sowerby, London.

HIERACIUM molle.

Soft-leaved Hawkweed.

SYNGENESIA Polygamia-æqualis.

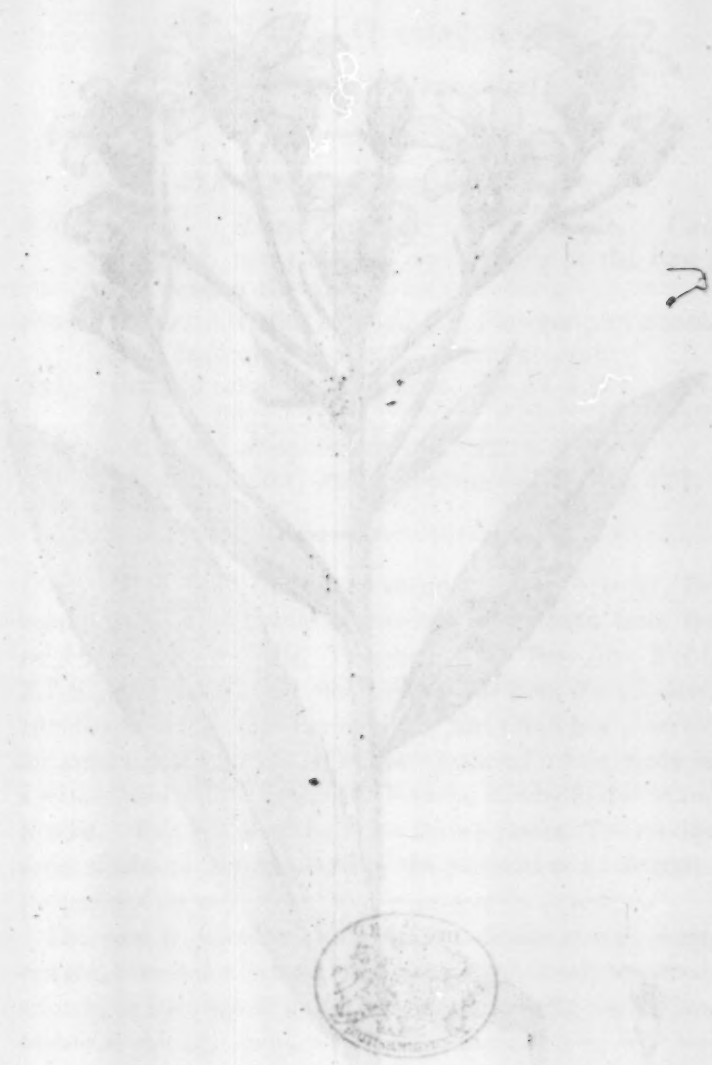
GEN. CHAR. *Recept.* nearly naked, dotted. *Cal.* imbricated, ovate. *Down* simple, sessile.

SPEC. CHAR. Stem panicled, hollow, angular. Leaves lanceolate, slightly toothed, hairy, clasping the stem; lower ones stalked, more elliptical and obtuse.

SYN. Hieracium molle. *Jacq. Austr. v.* 2. 12. *t.* 119. *Dicks. Tr. of Linn. Soc. v.* 2. 288. *H. Sicc. fasc.* 11. 13. *Sm. Fl. Brit.* 832. *With.* 688. *Hull. ed.* 2. 232.

MR. DICKSON discovered this Hawkweed, which Linnæus never described, in woods in the south of Scotland, and we are obliged to him for an authentic specimen, which agrees with original ones of Jacquin in the Linnæan herbarium.

H. molle is perennial, and flowers in July. The whole herb is clothed with scattered, short, soft hairs, which on the flower-stalks are glandular and viscid. Stem about 18 inches high, erect, unbranched, leafy, angular, hollow like that of *H. paludosum, t.* 1094, panicled at the summit. Lower leaves on long bordered stalks, elliptic-oblong, obtuse, distantly toothed; upper ones sessile, clasping the stem, more lanceolate, less blunt, and scarcely toothed at all. Flowers several, erect, of a full yellow. Calyx clothed with glandular hairs and some cottony down. Seed yellowish, striated. Down rough.



Nov 1 1 published by J.S. Swan 1839 London

SENECIO saracenicus.

Broad-leaved Groundsel.

SYNGENESIA Polygamia-superflua.

GEN. CHAR. *Recept.* naked. *Down* simple. *Cal.* cylindrical, many-leaved, equal, scaly at the base; scales dead at the tip.

SPEC. CHAR. Radius spreading. Flowers corymbose. Leaves lanceolate, serrated, nearly smooth.

SYN. Senecio saracenicus. *Linn. Sp. Pl.* 1221. *Sm. Fl. Brit.* 887. *Huds.* 367. *With.* 726. *Hull. ed.* 2. 242. *Jacq. Austr. v.* 2. 52. *t.* 186.
Virga aurea maxima, radice repente. *Raii Syn.* 177.

MR. JOHN WINDSOR, an assiduous young botanist, favoured us with this wild specimen in July 1810 from the neighbourhood of Settle, Yorkshire. The Rev. John Rudd, F.L.S., of Preston, sent others in August from Brawsholme, 19 miles from the town last named. Mr. Okell has observed the same near Chester, and we have gathered it long since in a watery lane near Preston hall, between Kirkby Lonsdale and Kendal. This is one of our rarest British plants. The specific name alludes to its being used by the Saracens as a vulnerary. Its qualities are astringent, with considerable acrimony.

The root is perennial and creeping. Stems annual, erect, straight, from 3 to 5 feet high, leafy, angular, scarcely branched, smooth, or but slightly downy. Leaves alternate, sessile, lanceolate or oblong, acute, a span long, more or less, with numerous, sharp, tooth-like serratures. Flowers bright yellow, in a large terminal corymbus, with narrow, lanceolate, pointed bracteas, and rather downy stalks. Calyx also somewhat downy, its supplementary scales lanceolate. Florets of the radius long and somewhat elliptical, scarcely toothed at the end, with longish claws, not numerous, revolute in decay only. Seeds nearly, if not quite, smooth, with a roughish down.

Pubd. as the Act directs by Jas. Sowerby London.

AMARANTHUS Blitum.

Wild Amaranth.

MONOECIA Pentandria.

GEN. CHAR. Male, *Cal.* of 3 or 5 leaves. *Cor.* none. *Stam.* 3 or 5. Female, *Cal.* of 3 or 5 leaves. *Cor.* none. *Styles* 3. *Capsule* of 1 cell, splitting all round. *Seed* 1.

SPEC. CHAR. Flowers three-cleft and triandrous, in small lateral tufts. Leaves ovate. Stem diffuse.

SYN. Amaranthus Blitum. *Linn. Sp. Pl.* 1405. *Sm. Fl. Brit.* 1018. *Huds.* 418. *With.* 174. *Hull. ed.* 2. 279. *Relh.* 375.

Blitum rubrum minus. *Dill. in Raii Syn.* 157.

THIS dunghill plant is more frequent about London than elsewhere. Mr. Dickson, to whom we are obliged for our specimen, gathered it in the rich soil of Battersea fields. It is annual, bearing its little inconspicuous blossoms in August, and seeding plentifully in that month and the following.

The habit is rather that of an *Atriplex* than of such of its more specious congeners as decorate our gardens. The stems however, which spread widely and almost horizontally, sometimes assume a purple tinge. The leaves are alternate, on long stalks, ovate, entire, smooth, generally more or less pointed, sometimes abrupt and emarginate, their edges only slightly rough. Clusters axillary, leafy, each bearing a few small tufts of sessile axillary green flowers, whose calyx is of but 3 leaves, with a corresponding number of stamens in the males, and often an abortive pistil. The female flowers have no signs of stamens, but an ovate germen, with 3 recurved downy styles. Capsule membranous, elliptical, crowned with the withered styles, and when ripe bursting all round like that of the Plantain, but containing only 1 lenticular shining seed, which becomes black when arrived at maturity.—Perhaps what are here termed styles, after Linnæus, are rather almost sessile stigmas.

Nov 1 1818 Published by J.& F. Tuckey, London

GYMNOSTOMUM osmundaceum,

Fern-leaved Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous. *Veil* separating entire from the base.

SPEC. CHAR. Stem perfectly simple, elongated; naked at the base. Leaves acute, two-ranked. Capsule roundish. Lid pointless.

SYN. Gymnostomum osmundaceum. *Hoffm. Germ. v.* 2. 28. *Sm. Fl. Brit.* 1161.

G. pennatum. *Hedw. Sp. Musc.* 31. *Crypt. v.* 1. 77. *t.* 29.

Mnium osmundaceum. *Dicks. Crypt. fasc.* 1. 3. *t.* 1. *f.* 4. *H. Sicc. fasc.* 12. 21.

Bryum pennatum. *With.* 821. *Hull.* 259.

Dicksonia pusilla. *Ehrh. Crypt.* 65.

NONE of our British Mosses is more elegant, scarcely any so rare as the present, which has been found in Devonshire only, by the Rev. Mr. Newberry, in the road from Zele to South Tawton church, four miles from Okehampton. It ripens fruit in the early part of summer, and is annual, or, according to Hedwig, biennial. This distinguished author changed the specific name given by Mr. Dickson, who first described the plant; but Hoffmann properly restored it, and we gladly follow him. Ehrhart dedicated it, as a genus, to Mr. Dickson, but we know not how he distinguished it from his own *Pottia*, hereafter described *t.* 2214.

The root consists of several capillary, often branched, fibres. Stems in lax tufts, half an inch high, erect, simple, thread-shaped, leafless in the lower part. Leaves lanceolate, acute, entire, flat, ribless, vertical, spreading in two ranks, resembling some kind of fern. Flowers terminal, diœcious, each surrounded with several acute spreading leaves, which form a sort of scaly sheath to the base of the fruitstalk. The capsule is almost globular, erect, delicately shaped and reticulated. Lid, according to Hedwig, very thin, slightly convex, pointless, at length revolute and torn at the edges.

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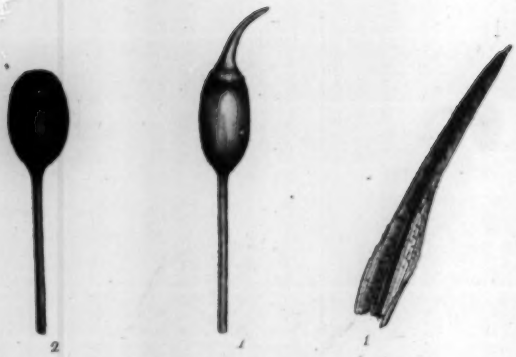

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Published by Jas. Sowerby, London.

GYMNOSTOMUM curvirostrum,

Curve-beaked Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous. *Veil* separating entire from the base.

SPEC. CHAR. Stem branched, tufted. Leaves awl-shaped, recurved, in interrupted clusters. Lid awl-shaped, curved.

SYN. Gymnostomum curvirostrum. *Hedw. Sp. Musc.* 33. *Crypt. v.* 2. 68. *t.* 24. *Sm. Fl. Brit.* 1164.

Bryum æstivum. *Linn. Sp. Pl.* 1585. *With.* 826. *Hull.* 254.

B. palustre. *Huds. ed.* 1. 411.

B. palustre æstivum, confervæ facie. *Dill. Musc.* 375. *t.* 47. *f.* 36.

B. angustissimis foliis crebrioribus, capitulis erectis brevibus, pediculis e surculis novis et longis enascentibus. *Dill. in Raii Syn.* 99.

B. verticillatum. *Dicks. H. Sicc. fasc.* 5. 19.

Pottia curvirostra. *Ehrh. Crypt.* 93.

DOUBTS have been started by Mr. Eagle, at present deeply intent on the subject of Mosses, and by whose labours we hope hereafter to profit, whether the German moss, indicated by the first and the last of the above synonyms, be not a distinct species from that of Dillenius and Dickson, to which all the rest belong. We would not anticipate our able friend's discovery; but to prevent error, however the point may be decided, we exhibit at *f.* 1 Mr. Dickson's Cumberland plant, and at *f.* 2 a German specimen of Ehrhart's. Both grew on alpine wet rocks, and are encrusted with white calcareous earth.

The stems are branched, an inch or two high, composing dense tufts. Leaves alternate, crowded here and there into clusters, awlshaped, recurved, keeled, single-ribbed, pointed, entire or nearly so, light green, permanent, yellowish brown when old. Fruitstalks from among the clusters of leaves, whether lateral or terminal, erect, capillary, straightish. Capsule upright, elliptical, abrupt, narrow-mouthed, red at top and bottom, when old of a dark shining chesnut all over. Lid the length of the capsule, awlshaped, obliquely curved.

GYMNOSTOMUM microstomum.

Small-mouthed Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous. *Veil* separating entire from the base.

SPEC. CHAR. Stem nearly simple. Leaves awlshaped, incurved by drying. Lid awlshaped. Capsule elliptical, much contracted at the mouth.

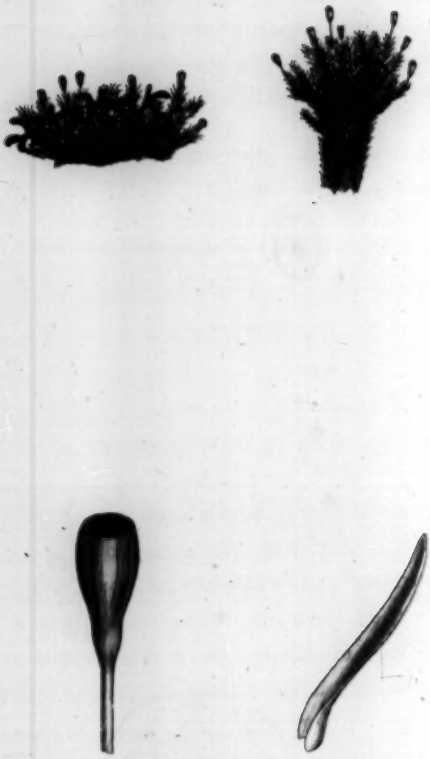
SYN. Gymnostomum microstomum. *Hedw. Sp. Musc.* 32. *Crypt. v.* 3. 71. *t.* 30, B. *Sm. Fl. Brit.* 1165. *Swartz. Musc. Suec.* 21.

Bryum microstomum. *Dicks. Crypt. fasc.* 4. 9.

MR. DICKSON mentions this curious little moss as growing in pastures. We have compared his native specimens with ours sent by Dr. Swartz, and they precisely agree, as well as with Hedwig's figure and description; but we are obliged to take our drawing from some of Swedish growth, a measure we think it our duty to acknowledge, though there is no uncertainty nor ambiguity in the case.

This was supposed to be the smallest of its genus, but it yields in that respect to some later discoveries. The roots are perennial. Stems tufted, very short, for the most part quite simple, but occasionally they are divided at the bottom. Leaves dense, lightish green, awlshaped, or rather lanceolate when wet, keeled, pointed, entire, broad at the base; when dry curled inward. Fruitstalk taller than the stem, upright, capillary, twisted when old and dry. Capsule erect, elliptical, very small, dark brown, smooth, its mouth reddish, greatly contracted. Lid awlshaped, oblique, shorter than the capsule.

We suspect the peculiar adhesion of the lid to the central column, which is noticed in *t.* 1951, and some others of this genus, chiefly, if not exclusively, belongs to species whose capsule is dilated at the mouth. Do these circumstances indicate any generic difference?



Not to be published by Sir J. Smith, London

GYMNOSTOMUM lapponicum.

Lapland Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous. *Veil* separating entire from the base.

SPEC. CHAR. Stem branched. Leaves linear-lanceolate, channelled, curled when dry. Capsule abrupt, furrowed.

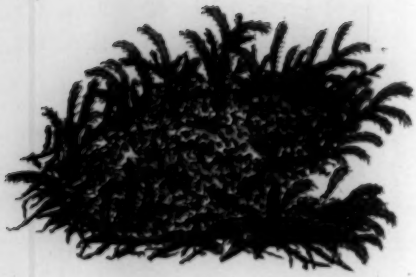
SYN. Gymnostomum lapponicum. *Hedw. Crypt. v.* 3. 10. *t.* 5, A. *Sm. Fl. Brit.* 1167. *Swartz. Musc. Suec.* 20.

Anictangium lapponicum. *Hedw. Sp. Musc.* 40.

Bryum lapponicum. *Dicks. Crypt. fasc.* 4. 10.

As we approach so near to the end of our long labours, we think it best to finish all the species of a genus together, if possible. This then, with the three preceding plates, concludes the British species of *Gymnostomum*, as far as they are described. It was discovered on the alpine rocks of Scotland by Mr. Dickson. Our specimen accompanied by a dark *Jungermannia* was gathered in Cwm Idwell, North Wales, by Mr. Griffith. The other, given us by Dr. Swartz, came from Lapland. Professor Thunberg sent a similar one to Hedwig, destitute, like ours, of a lid to the capsules, nor are we informed of the season for gathering the plant in perfection.

The stems compose loose perennial tufts, about an inch high and are for the most part very much branched, leafy throughout, and spreading. Leaves of a full green, imbricated, linear-lanceolate, acute, beardless, keeled, single-ribbed, entire; when dry incurved and crisped. Fruit-stalks terminal, solitary, short, erect. Capsule erect, somewhat pear-shaped, with a wide mouth, its sides marked with eight longitudinal furrows and as many strong ribs. The colour of the fruit is a bright bay. We find nothing of the tulip-like red and yellow exhibited in Hedwig's plate; so difficult is it to command exactness in subordinate colourers!



New ed. pub. by J.t Sowerby London

LICHEN viridescens.

Greenish Horny-tubercled Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

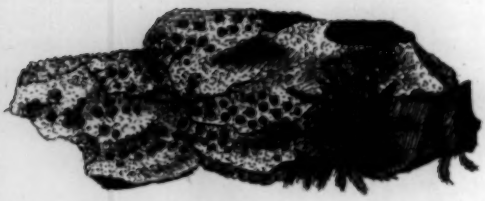
SPEC. CHAR. Crust thin, mealy, indeterminate, scattered, pale green. Tubercles numerous, convex, rugged, brown, semitransparent; at length blackish.

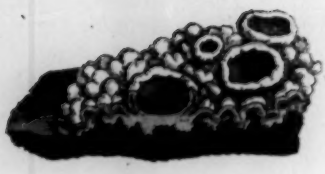
SYN. Lichen viridescens. *Schrad. Spicil.* 88. *Ach. Prod.* 50.
Lecidea viridescens. *Ach. Meth.* 62.
L. hypnophila. *Winch. v.* 2. 37.

FOUND by Mr. D. Turner on Buxton church, Norfolk, as well as on the ruins of Carrow abbey, near Norwich, and in other places, being most vigorous and apparent in damp autumnal weather.

The crust runs over the irregular surface of decayed *Hypna*, in the manner of *L. muscorum*, *t.* 626, and is consequently scattered, friable, and indeterminate, of a mealy substance and pale green dirty hue. The tubercles when young are flat, light brown with a paler, but not elevated, edge, of their own substance. Afterwards they grow convex, more or less rugged, darker coloured, but retain their original horny semitransparency. Finally they become almost black, and in some measure spherical. In their original colour and ultimate shape they essentially differ from *muscorum*, *t.* 626, nor is their crust so white. Mr. Turner observes that the young tubercles betray an affinity to *vernalis*, *t.* 845, but they have no elevated border, nor are they when full grown of so light a colour.

We have Mr. Borrer's authority for the name of Schrader, which was determined by a specimen from that author himself.





New ... published by Jas. Sowerby London.

LICHEN ulmi.

Elm Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, white, thin, uneven, continued. Shields numerous, sessile, concave, brownish-salmon-coloured, with a thick, white, powdery, crenate, inflexed border.

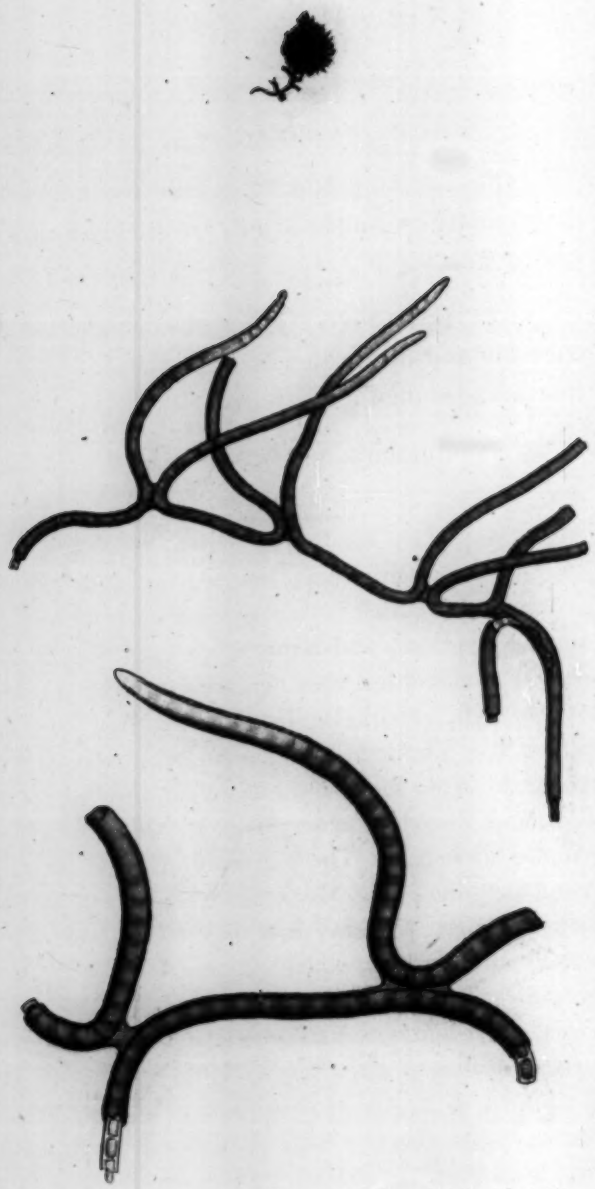
SYN. Lichen ulmi. *Swartz. Nov. Act. Upsal. v.* 4. 247. *Ach. Prod.* 54.
L. pallidus. *Hoffm. Enum.* 50. *t.* 5. *f.* 2.
Patellaria rubra. *Hoffm. Pl. Lich. v.* 1. 81. *t.* 17. *f.* 2.
Parmelia rubra. *Ach. Meth.* 170.

GATHERED by Mr. W. Borrer on the bark of old elms near Greta bridge, Yorkshire.

This is an elegant species. The very white leprous crust is continued widely over the bark, but though occasionally rugged or granulated, is commonly very thin. Numerous, and sometimes crowded, shields are scattered over it, which are sessile, with a very neat, thick, inflexed, crenate, somewhat powdery border, of the substance of the crust, and a concave disk of a brownish salmon-colour, turning a little darker by age. When old the disk falls out, leaving the white border hollow like a cup.

In our description of *L. marmoreus*, *t.* 739, we, like many others, confounded this species with that. Having discovered our error, we communicated it to Dr. Acharius, till then lying under the same mistake, who has, with his usual candour, corrected it in his *Methodus*, p. 170. Mr. Turner, on the authority of a named specimen, suggests that our present plant is Mr. Dickson's *marmoreus*, but we are certain he comprehended the real one also, which is *cupularis* of Hedwig, *Crypt. v.* 2. 58. *t.* 20, B, and consequently of Acharius; Mr. Dickson's *cupularis* being, according to Mr. Turner, *L. Acharii*, figured in our *t.* 1087.

The white crust, place of growth, duller hue of the shields and their pure white border, distinguish *L. ulmi* from *marmoreus*, whose crust, when it can be detected, is of a dirty green or grey, running over mosses and stones, its shields redder, with a flesh-coloured wax-like border.



CONFERVA mirabilis.

Cohering Conferva.

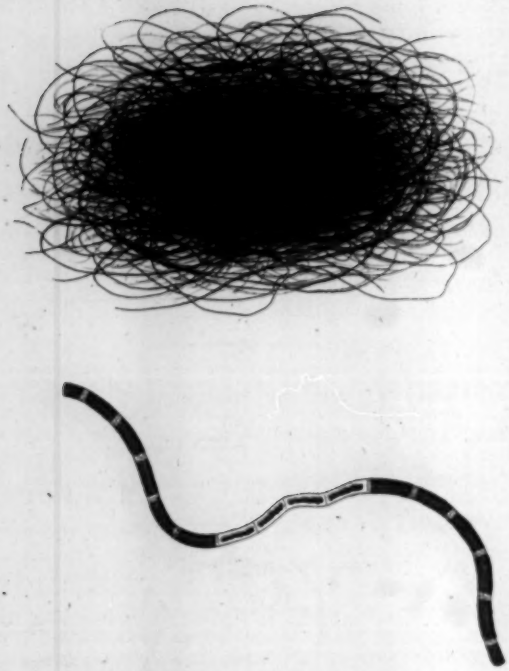
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale olive. Filaments cylindrical, even, cohering and divaricated as if branched. Joints rather broader than long.

SYN. Conferva mirabilis. *Dillw. Conf. t.* 96. *Syn. n.* 14.

COLLECTED in Bantry bay, Ireland, by Miss Hutchins, who sent it to Mr. Turner. Our specimens are parasitical on other submarine plants, and rather olive than blueish green. They consist of cylindrical even filaments, making dense tufts half an inch high, remarkable for cohering here and there, but without any interbranching, or communication of their internal parts. After they have thus united, they immediately divaricate, and then join other filaments, from which they again spread as before. The joints are scarcely so long as broad, and are quite even. Mr. J. D. Sowerby has discovered an external, somewhat horny, coat or sheath, enveloping the whole plant; from which, when cut transversely, a pellucid, pale reddish, more distinctly jointed, internal filament protrudes gradually, and returns again in a few minutes. This circumstance makes us waver respecting Mr. Dillwyn's plant, though verified to us by good authority, as it could hardly have escaped that able observer. Another doubt arises from his being a fresh-water species, and described of a blueish green colour.



Published by Jas. Lowry, London.

CONFERVA tortuosa.

Curling Green Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Filaments simple, capillary, even, rather rigid, curled, twisted and entangled. Joints cylindrical, thrice as long as broad.

SYN. Conferva tortuosa. *Dillw. Conf. t.* 46. *Syn. n.* 29.

MR. BORRER gathered our specimens in ditches near Selsey, Sussex, and sent them in a fresh state.

The filaments grow in an entangled rather elastic mass, of a deep green, and are as fine as human hair, considerably tenacious, even, remarkably curled and undulated, their joints exactly cylindrical, at least three times as long as broad, the partitions soon becoming pellucid, and the green matter within each joint shrinking into the middle as they dry.

We are not quite sure that lateral branches are not occasionally, though very rarely, sent off by the filaments; but this is foreign to the nature of the tribe to which *C. tortuosa* appears, by all other signs, to belong. We leave it to future observers to correct or to confirm our remark.

Jerram published by J.A. Lowndes, Deptford

AVENA fatua.

Wild Oat, or Haver.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing several florets. Outer valve of the *corolla* bearing a twisted awn on its back.

SPEC. CHAR. Panicle erect. Flowers drooping. Calyx containing about three florets, which are hairy at the lower part, all awned, and ribless.

SYN. Avena fatua. *Linn. Sp. Pl.* 118. *Sm. Fl. Brit.* 139. *Huds.* 52. *With.* 164. *Hull. ed.* 2. 34. *Relh.* 42. *Sibth.* 49. *Abbot.* 24. *Winch. v.* 1. 12. *Mart. Rust. t.* 81. *Knapp. t.* 93. *Leers.* 42. *t.* 9. *f.* 4. Ægilops quibusdam, aristis recurvis, seu Avena pilosa. *Raii Syn.* 389.

A PERNICIOUS weed in corn fields, especially among barley, flowering in July or August.

Root annual, with downy, somewhat whorled, fibres. Stem erect, simple, about a yard high, slightly leafy, very smooth. Leaves linear, spreading, ribbed, rough, occasionally hairy as well as their sheaths, which are thinner than the leaf itself, and generally smooth. Stipula obtuse, toothed and jagged. Panicle much branched, erect, the branches half whorled, rough, spreading, partly divided, capillary and drooping near the summit, but greatly thickened at the top. Flowers the size of the cultivated Oat, with a large, green, ribbed, smooth, nearly equal-valved calyx, rather longer than the florets, which are about 3, hairy in the lower part and around the scar of insertion, which is obliquely placed, not transversely like *A. sativa*. The corolla is scarcely ribbed, sharp-pointed, with a strong long awn from the middle of its outer valve, which, like the corolla, turns dark brown, and the hairs tawny, as the seed ripens. This awn is a celebrated hygrometer among natural philosophers. That of the exotic *A. sterilis* is still larger and more remarkable.

Drawn &c. published by J. Sowerby, London.

FRANKENIA pulverulenta.

Powdery Sea-Heath.

HEXANDRIA Monogynia.

GEN. CHAR. *Cal.* 5-cleft, funnel-shaped. *Petals* 5. *Stigmas* 3. *Caps.* superior, of 1 cell and 3 valves.

SPEC. CHAR. Leaves obovate, abrupt; downy and somewhat powdery beneath.

SYN. Frankenia pulverulenta. *Linn. Sp. Pl.* 474. *Sm. Fl. Brit.* 388. *Huds.* 138. *With.* 352. *Hull. ed.* 2. 101.

Alsine maritima supina, foliis chamæsices. *Dill. in Raii Syn.* 352.

Anthyllis valentina. *Clus. Hist. v.* 2. 186. *Ger. em.* 566.

Quadrifoglio annuo di Persia. *Zanon. Ist.* 164. *t.* 66.

AMONG the rarest of British plants is the *Frankenia pulverulenta*, which Mr. Brewer is said to have found on the Sussex coast in the time of Dillenius, and Hudson declares that he himself gathered it between Bognor and Brighthelmston. Of late years we have no certain account of its having been observed there, nor has it ever been seen elsewhere in Britain. Our specimen came from Mr. Dickson's garden at Croydon last July.

Root annual, fibrous. Stems numerous, branched from the very base, prostrate, repeatedly forked, divaricated, leafy, round, downy, often reddish. Leaves opposite, somewhat clustered, obovate, abrupt or emarginate, entire, keeled, slightly revolute; smooth and green above; whitish, downy and hoary as if powdery beneath. Flowers axillary and terminal, solitary, sessile. Calyx prismatic, with red ribs, smooth. Petals pale pink.

This species is not uncommon on the shores of the Mediterranean or Archipelago.

Dec 1 1820 published by Jas Sowerby London.

ATRIPLEX erecta.

Upright Spear-leaved Orache.

POLYGAMIA Monoecia.

GEN. CHAR. Hermaphr. *Cal.* in 5 divisions, inferior. *Cor.* none. *Stam.* 5. *Style* cloven. *Seed* 1, depressed. Female, *Cal.* 2-leaved. *Cor.* none. *Style* cloven. *Seed* 1, compressed.

SPEC. CHAR. Stem herbaceous, erect. Leaves ovato-lanceolate; the lower ones sinuated. Calyx of the fruit all over muricated.

SYN. Atriplex erecta. *Huds. ed.* 1. 376. *Sm. Fl. Brit.* 1093. *Hull. ed.* 2. 307.

A. patula β. *Huds. ed.* 2. 444.

A. angustifolia laciniata. *Dill. in Raii Syn.* 152.

IT is strange that no recent botanist has found this plant. The late Professor Martyn sen. is said to have gathered it on the entrance into Battersea field from Nine Elms, a place since much changed by cultivation and improvement, which we have examined in vain. We are therefore obliged to have recourse to a dried specimen in Mr. Rose's herbarium, named under the inspection of Mr. Hudson, who at first rightly defined this species, though he afterwards very mistakenly referred it to his *patula*, our *angustifolia*, *t.* 1774, as a variety.

It is known by its upright stem, which is much branched and panicled in the upper part, and especially by the very abundant and crowded fruit, only one third as large as that of *angustifolia*, and all over strongly armed with prominent tubercles. The leaves are stalked, ovato-lanceolate and acute when young powdery at their backs; the lower ones somewhat toothed and sinuated.

We trust our figure and description may lead some botanist, not exclusively devoted to the more ornamental plants, to detect and ascertain this long neglected weed.

Dec.1.1810. Published by J.S. Sowerby, London.

POLYPODIUM Phegopteris.

Pale Mountain Polypody.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* none.

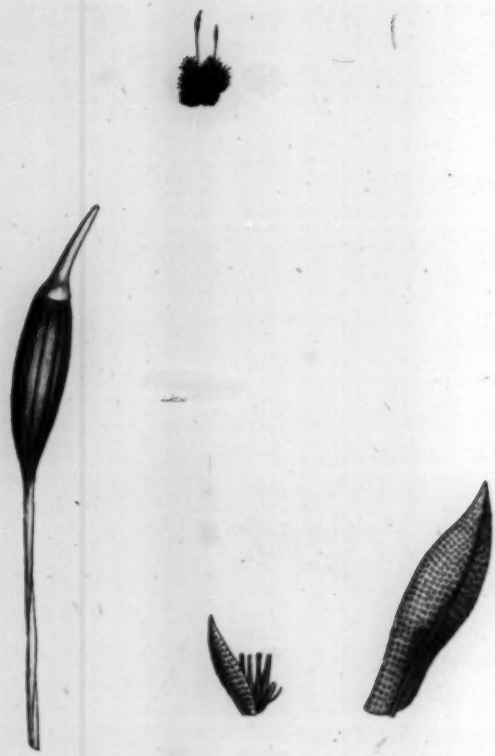
SPEC. CHAR. Frond pinnated: leaflets lanceolate, pointed, pinnatifid, united at their base; the lower pair reflexed.

SYN. Polypodium Phegopteris. *Linn. Sp. Pl.* 1550. *Sm. Fl. Brit.* 1116. *Huds.* 456. *With.* 775. *Hull.* 238. *Lightf.* 669. *Winch. v.* 1. 95. *Bolt. Fil.* 36. *t.* 20. *Ehrh. Crypt.* 131.

P. n. 1698. *Hall. Hist. v.* 3. 12.

Filix minor britannica, pediculo pallidiore, alis inferioribus deorsùm spectantibus. *Dill. in Raii Syn.* 122.

STONY rather moist places, on mountains in the south of Scotland and north of England, produce this delicate fern; but it is certainly not, as its Greek specific name imports, a native of our Beech woods, at least not of those of the midland counties. We have gathered it in Westmoreland, not only in the shade, but sometimes on open stony moors, where it cannot fail to attract the notice of a botanist by its upright position, pale delicate aspect, whitish stalk, and especially the dependent posture of the two lowermost leaflets or wings. Very rarely it grows in considerable patches, more frequently scattered, having a creeping root. Each plant is about a foot, or more, in height, with a very long, slender, naked, smooth, brittle stalk. Principal pinnatifid leaflets about ten pair, not exactly opposite, though sessile and slightly united at their base, and yet not decurrent. They join about as many simple, gradually shorter, and finally entire ones, above them, surmounted by a taper point. All are fringed and besprinkled with pale soft hairs on both sides, which are often clustered, somewhat stellate, on the rib at the back. The capsules form little round naked yellowish dots, about the lower part of the edges of the segments.



GRIMMIA? Forsteri.

Forsterian Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves ovate, concave, pointless. Capsule ovate-oblong, erect. Lid awlshaped, curved.

SYN. Grimmia? Forsteri. *Sm. Fl. Brit.* 1196.
Bryum Forsteri. *Dicks. Crypt. fasc.* 3. 4. *t.* 7. *f.* 8.

ALL the known specimens of this moss were taken by Mr. T. F. Forster from the trunks of felled trees at Walthamstow, nor has it been seen in such a state as to ascertain any thing precise respecting its genus. We strongly suspect it may not prove different from *Mnium conoideum*, *t.* 1239, with which the singular reticulations of the leaves, and the furrows of the fruit, agree; but the very poor specimens of each which we possess, will not admit of absolute decision. In this state of things we feel bound to furnish all the information we can, however incomplete, that others may judge.

The stems form little tufts, of a very humble stature. Leaves of a dullish green, ovate, concave, entire, with a strong central rib, pointed, but not tipped with any hair or bristle; the base somewhat elongated. The substance of the leaf is all over finely dotted, rather than reticulated, just as in *Mnium*, see *t.* 1238, 1239. Fruitstalk half an inch high, yellowish, twisted. Capsule ovate-oblong, erect, green and unripe in our specimen, strongly furrowed longitudinally. Lid awl-shaped, curved, pale, nearly as long as the capsule. Nothing is known concerning the fringe or veil.

From the young state of the capsule, its real shape cannot exactly be determined; but its furrows are visible enough, and do not appear to be owing, as we once thought, to mere contraction in drying, being exactly parallel and very regular, as the generic character of *Mnium* requires.

Dawson published by Sowerby & Co. London

GRIMMIA alpicola.

Beardless Alpine Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves ovato-lanceolate, blunt, pointless. Capsule cup-shaped, on a very short stalk. Fringe mostly imperforate. Lid oblique.

SYN. Grimmia alpicola. *Swartz. Musc. Suec.* 27 & 81. *t.* 1. *f.* 1. *Sm. Fl. Brit.* 1199. *Hedw. Sp. Musc.* 77. *t.* 15. *f.* 1—5. *Turn. Musc. Hib.* 22.

NATIVE of rocks and stones in alpine rivulets. The late Dr. Scott found it on the mountains of Ireland. We are obliged to Mr. Turner and to Dr. Swartz for authentic Irish and Swedish specimens.

This is most akin to *G. apocarpa*, *t.* 1134, but very distinct. The stems are about an inch high, a little branched, tufted. Leaves imbricated, ovato-lanceolate, concave, keeled, single-ribbed, entire, in drying somewhat revolute; their points bluntish, without any hair or bristle, never incurved, their colour the dark black green of most aquatic mosses. Capsules nearly sessile among the uppermost leaves, solitary, erect, of a short ovate or cup-like shape, especially those from Sweden, whose mouths, whether from great pressure in drying or otherwise, are rather wider than the Irish ones. They are all very smooth, of a rusty hue, with a reddish or dark edge. Teeth of the fringe deep red, spreading when ripe, some of them, according to Dr. Swartz's observation, having now and then a perforation or two, in some measure like the very curious *G. cribrosa, Hedw. Crypt. v.* 3. *t.* 31, A, whose teeth are all over pierced, and whose upper leaves are hair-pointed. The lid, wanting in our specimens, is described as red, with an oblique beak.

Dec 1 1820 published by Jas Sowerby London

DICRANUM Starkii.

Starkian Fork-moss.

CRYPTOGAMIA Musci.

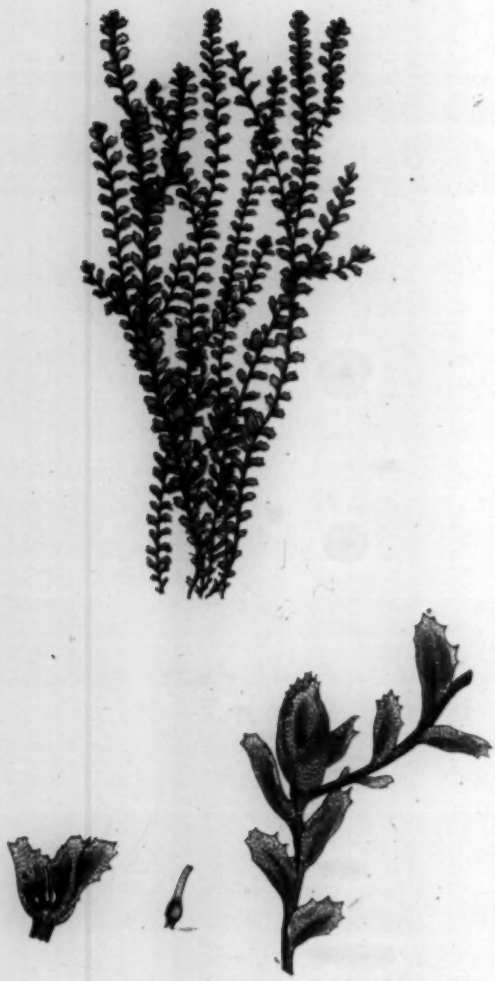
GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem somewhat branched. Leaves awl-shaped, curved one way, single-nerved, entire; ovate and sheathing at the base. Capsule obovato-cylindrical, drooping, with a little swelling beneath it. Lid as long as the capsule.

SYN. Dicranum Starkii. *Web. & Mohr. Crypt. Germ. v.* 1. 189. *n.* 27.

DISCOVERED on the alpine rocks of Ben Lawers, by Mr. G. Don, who sent us this only specimen, which we have carefully compared with one of Weber and Mohr's in Mr. Turner's possession. Their moss was found in rather alpine parts of Silesia, by the Rev. Mr. Starke, a distinguished cryptogamist; and they consider as the same Schleicher's *D. curvifolium; Cent.* 4. *n.* 14.

In our *vol.* 28. *p.* 1989, *D. longifolium* is said to have been found in Scotland by Mr. G. Don, but it proves only Mr. Dickson's *Bryum longifolium*, our *D. falcatum*. The present moss was since sent us by our indefatigable correspondent, as perhaps real *longifolium*. It comes indeed near that species, agreeing with it in size, but its leaves are not so long nor so capillary; they have moreover a central nerve, and there is a swelling, or *struma*, at the base of the capsule. It differs from *falcatum*, *t.* 1989, in its much greater size, and its more elongated and cylindrical capsule, contracted, not dilated, at the mouth. The lid also is longer in proportion and more slender. We suspect that some great muscologists may have confounded this with the real *longifolium*.



Dec.1.1818 published by J.Sowerby London.

JUNGERMANNIA spinulosa,

Prickly-leaved Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile.
Capsule on a stalk rising from a sheath, of 4 valves.
Seeds attached to elastic filaments.

SPEC. CHAR. Stems branched, erect. Leaves rather distant, in two rows, without auricles, obovate, oblique, sharply toothed. Fruitstalks lateral.

SYN. Jungermannia spinulosa. *Dicks. Crypt. fasc.* 2. 14. *With.* 874. *Hull.* 278.
Lichenastrum ramosius, foliis trifidis. *Dill. Musc.* 489. *t.* 70. *f.* 15.

DILLENIUS found this on Snowdon, and Mr. Dickson in the Highlands of Scotland. Mr. Griffith also has met with it on the Welch hills. Nevertheless the fructification has escaped all these acute observers. Mr. Hooker has collected in Scotland, and Miss Hutchins in Ireland, what the former believes to involve the female fructification. These are lateral ovate buds, composed of two or three of the ordinary leaves folded together, in which neither a proper sheath, nor any capsule nor fruitstalk has been found. Most of them on the contrary are empty, but in some we have discovered an apparent tuft of several young tube-like styles, or young *calyptræ*, like those proper to this genus in common with mosses. Whether these be such or not, if the appearance and disposition of these ovate buds be considered, there can be little doubt of the truth of Mr. Hooker's opinion.

This species ought to range next to *J. asplenioides*, *t.* 1788, from which it differs in its upright stems, and more distant leaves, whose teeth are much fewer, considerably larger, and more unequal. The fruitstalks moreover appear to be lateral, not terminal, and the colour of the plant, in our specimens, is more pale and dull.

Drawn & published by Jo.ᵉ Sowerby London.

JUNGERMANNIA concinnata,

Braided Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile.

Capsule on a stalk rising from a sheath, of 4 valves, *Seeds* attached to elastic filaments.

SPEC. CHAR. Stems quadrangular, branched. Leaves in two rows, closely imbricated, elliptical, concave, cloven; the terminal pair largest, concealing the sheath.

SYN. Jungermannia concinnata. *Lightf.* 786. *Huds.* 651. *With.* 881. *Hull.* 281.

COMMUNICATED by Mr. Hooker from Scotland, where Lightfoot first observed it to be frequent on the Highland rocks.

The stems form close tufts, about half an inch high, and are nearly upright, divided at the base; their branches bluntly quadrangular, swelling upwards, entirely covered with numerous, two-ranked, closely imbricated leaves, which are of a dull green, mostly tinged with brownish red, of a broadly elliptical concave figure, entire at the edges, but cloven with a sharp notch at the top. The upper pair are much the largest, enfolding each other, but rather inflated, concealing the sheath, which is very minute. The marginal part of all the leaves is, to a considerable extent, white and pellucid. The fruitstalk is scarcely two lines long, white and tender. Capsule of four elliptical black valves.

J. julacea, to which this has been compared, has its leaves imbricated in every direction.

Drawn & published by Sir Thomas Lawrence.

JUNGERMANNIA pumila.

Dwarf Simple Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile.

Capsule on a stalk rising from a sheath, of 4 valves.

Seeds attached to elastic filaments.

SPEC. CHAR. Stems simple, short, ascending. Leaves in two rows, curved to one side, roundish-oblong, entire, undivided. Sheath cylindrical, sharply toothed.

SYN. J. pumila. *With.* 883. *t.* 18. *f.* 4. *Hull.* 281.

MR. GRIFFITH first discovered this species in Cwm Idwell, North Wales. Miss Hutchins sent our specimens from Ireland to Mr. Hooker, who kindly gave them to us.

The stems grow either loosely scattered over the ground, or slightly matted together, each about a quarter of an inch high, simple, creeping at the base, ascending and swelling upwards. The leaves are of a dull brownish green, imbricated in a row at each side of the stem, but both rows curved upward. Each leaf is roundish, slightly concave, undivided and entire, ribless, a little elongated at the base, destitute of auricles or appendages. Sheath terminal, solitary, longer than the leaves, often brownish, cylindrical; rather contracted, with sharp unequal teeth, at the orifice. Fruitstalk tall. Capsule with dark-brown elliptical valves.

This species diffuses a delightfully fragrant scent, whether in a moist or dry state.

Jan 1 1824 published by J. Sowerby London.

JUNGERMANNIA minuta.

Minute Auricled Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile.

Capsule on a stalk rising from a sheath, of 4 valves.

Seeds attached to elastic filaments.

SPEC. CHAR. Stems erect, branched. Leaves two-ranked, alternate, roundish, acute, with a folded acute side-lobe.

SYN. Jungermannia minuta. *Dicks. Crypt. fasc.* 2. 13. *With.* 374. *Hull.* 280.

Lichenastrum pinnulis minutissimis rotundis. *Dill. Musc.* 481. *t.* 69. *f.* 2.

COLLECTED in the Highlands of Scotland by Mr. Hooker, but neither he nor any one else has yet met with the fructification.

The slender wiry stems grow upright, among moss, to the height of an inch or two, and soon become branched. They are leafy throughout, except at the very base, and somewhat wavy and spreading. The leaves are extremely minute, uniform, dull green, spreading in two ranks, alternate, oblique, acute, rounded at the upper edge, furnished at the lower with an acute entire auricle, or side-lobe, folded in towards the leaf.

We have ventured to suggest the propriety of terming the larger half of the leaf in these auricled species in Latin *lobus*, and the smaller one, or auricle, *lobulus*; in English perhaps *leaf* and *side-lobe* may be most intelligible. These parts have not hitherto been well understood or defined by authors.

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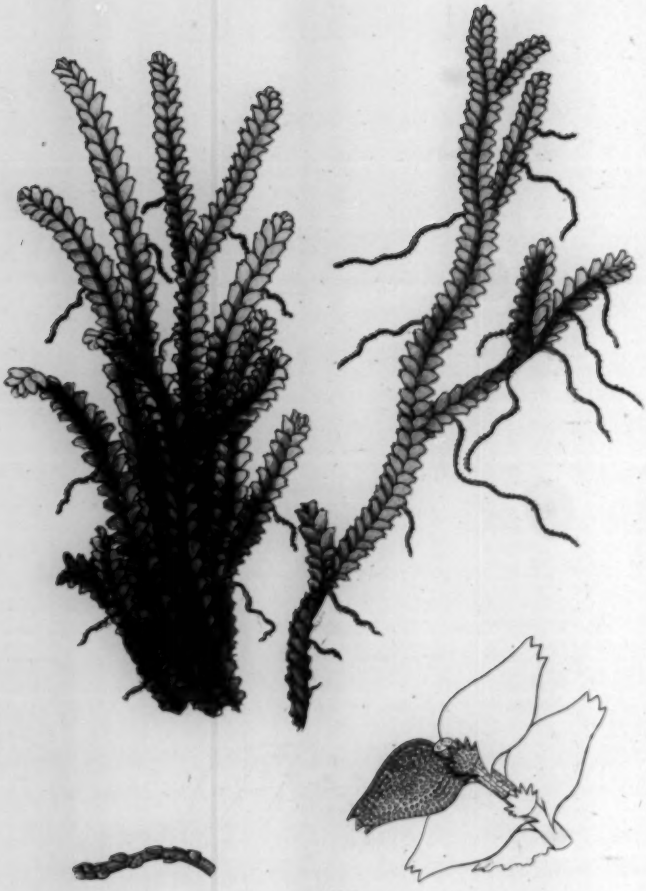

Jno. Curtis published by Jas. Sowerby London

JUNGERMANNIA radicans.

Three-toothed Rooty Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile.
Capsule on a stalk rising from a sheath, of 4 valves.
Seeds attached to elastic filaments.

SPEC. CHAR. Stem trailing, branched, pinnate, smooth, with long, scaly radicles. Leaves two-ranked, imbricated; contracted and three-toothed at their ends. Stipulas solitary, rounded, toothed.

SYN. Jungermannia radicans. *Hoffm. Germ. v.* 2. 87.
J. trilobata. *Ehrh. Crypt.* 48. *Web. Goett.* 143.
J. n. 1866. *Hall. Hist. v.* 3. 59.
Muscoides terrestre repens, ex obscuro virescens, foliis superioribus et inferioribus ad extremitatem dentatis. *Mich. Gen.* 10. *t.* 6. *f.* 2.

HOFFMANN alone seems to have been aware of this not being the true *J. trilobata* of Linnæus, with which it has been otherwise universally confounded, but which is a smaller plant, with downy stems, destitute of the long scaly shoots or radicles so remarkable in ours; neither are its leaves imbricated, but parallel, nearly square, with three or four strong teeth or lobes at the outer edge, or extremity. We cannot detect its stipulas described by Dillenius.

Our plant, gathered by Mr. Hooker at Tunbridge, and Miss Hutchins in Ireland, has stems three or four inches long, creeping, repeatedly branched, smooth, throwing out long simple cylindrical scaly shoots or radicles, and pinnated throughout with light bright green leaves, spreading in two directions, of an unequally ovate oblique form, their rounded, dilated, foremost edges imbricated over the leaf beyond them, their points contracted, abrupt, notched with three, rarely four, little sharp teeth. Betwixt each pair of leaves, on the under side of the stem, is one small, round, or somewhat kidney-shaped, crenate, close pressed stipula. We have never seen any fructification. Haller says it grows on the extreme branches.

J. trilobata of the Linnæan herbarium is Dillenius's *t.* 71, *f.* 22, who having never found the fructification of his plant, copies as such that of a different species from Micheli, *t.* 5. *f.* 10, and has thus misled Linnæus and others.

G.R. III.